

DISSIDENT PHYSIOCRATS  
Value, surplus and distribution in the economic writings of  
Le Trosne, Turgot, Morellet and Isnard

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## Abstract

The economic writings of G.-F. Le Trosne (1727-1780), A.R.J. Turgot (1727-1781), A. Morellet (1727-1819) and A.N. Isnard (1749-1803) can be understood as attempts to develop F. Quesnay's seminal conception of the economy as a reproductive system. The idea that the economy annually produces a 'net product' or surplus, above the reproductive requirements of the economy elicits questions such as "what is the 'origin' of the surplus?", and "how is the surplus normally distributed among the social classes?". These and other questions are treated by this younger generation of writers in an original manner. The rejection by Isnard of the physiocratic doctrine of the exclusive productivity of agriculture or Turgot's notion of profit as a return on capital are amendments, rather than rejections, of Quesnay's basic economic model. The later developments in physiocratic theory evince that it was an auspicious approach to economic theory.

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## Table of Contents

Chapter 1. Introduction .....	1
Chapter 2. Value and exchange .....	14
2.1. Introduction .....	14
2.2. Le Trosne on value and exchange .....	14
2.3 Turgot on value and exchange .....	32
2.3.1 Introduction .....	32
2.3.2 Turgot's early ideas .....	34
2.3.3 Value and exchange in the <i>Reflections</i> .....	36
2.3.4 'Value and Money' .....	38
2.3.4.1 Morellet's comments .....	39
2.3.4.2 Equal benefit in exchange .....	49
2.4. Isnard's theory of exchange .....	58
2.5. Conclusion .....	66
Chapter 3. The origin of the surplus .....	68
3.1. Introduction .....	68
3.2. Quesnay and Le Trosne on the origin of the surplus .....	69
3.3 Turgot .....	80
3.3.1 Turgot on the origin of the surplus .....	80
3.3.2 Turgot's "transformation problem" ? .....	84
3.4 Morellet on the origin of the surplus .....	89
3.5 Isnard on the origin of the surplus .....	94
3.6 Conclusion .....	101
Chapter 4. Circulation .....	103
4.1. Introduction .....	103
4.2. Variations in market prices and the role of merchants .....	104
4.3 The Role of Demand .....	113
4.3.1 'Consumption is the measure of reproduction' .....	113
4.3.2 'Actual demand' in Isnard .....	119
4.3.3 Demand and Reproduction in Isnard .....	124
4.4. Money as means of exchange .....	128
4.4.1 A theory of commodity money .....	129
4.4.2. Connections to the physiocratic views on circulation .....	136
Chapter 5. Distribution .....	143
Chapter 6. Wages .....	152
6.1. Introduction .....	152
6.2 The physiocrats .....	152
6.2.1 The theory of wages in the physiocrats .....	152
6.2.2. The theory of population .....	161
6.3. Turgot on wages .....	165

6.4. Morellet on wages	174
6.5. Isnard on wages	180
Chapter 7. Capital and Profit	187
7.1. Introduction	187
7.2. Quesnay	188
7.2.1. Concepts of capital in Quesnay	188
7.2.2. Quesnay's 'theory of profit'	193
7.3. Turgot's theory of capital	197
7.3.1 Turgot's concept of capital: <i>richesses mobilières</i>	197
7.3.2 Money capital.	202
7.3.3 The returns to and movement of capitals	207
7.3.4. The abundance of capital	213
7.3.5 'Interest as an exchange phenomenon'	218
7.3.6. Historical appraisal	222
7.4. Isnard's theory of capital	234
7.4.1. Definition, movement and accumulation of capital	235
a) Isnard's definition of capital	235
b) The movement of capitals	238
c) Accumulation	239
7.4.2. The rate of profit and the value of capital.	244
7.5 Conclusion	251
Chapter 8. Rent	252
8.1. Introduction	252
8.2. The common physiocratic treatment of rent.	253
8.3 Later arguments	259
8.3.1 Rent as compensation for <i>avances foncières</i>	260
8.3.2 Rent as a return on capital	262
8.3.3 Differential rent	266
8.3.3.1 Auxiron on the origin of rent	267
8.3.3.2 Turgot on intensive decreasing returns in agriculture	272
8.4 Synthesis	275
Chapter 9. Conclusion	281
Appendices	287
Appendix A	287
Appendix B	290
Bibliography	292

## Chapter 1. Introduction

When Adam Smith (1723-1790) met François Quesnay (1694-1774) during his prolonged visit to Paris from December 1765 until October 1766, the economic movement founded by the eminent French court physician was reaching its zenith. One of Quesnay's energetic new supporters, the young Pierre Dupont, had just been given editorial control over the *Journal de l'agriculture*, providing the *économistes* with their own mouthpiece. His older disciple, the marquis de Mirabeau began to organise his famous Tuesday evening dinners at which the growing circle of *économistes* would discuss their latest writings.<sup>1</sup> Mercier de la Rivière was working on his *L'ordre naturel et essentiel des sociétés politiques* (1767), a book Smith was to call the 'most distinct and best connected account of [Mr. Quesnai's] doctrine' (Smith 1776, IV, ix:389). And *le docteur* himself published the final version of his *Tableau économique* in the June issue of the *Journal de l'agriculture*. It was only one of his twelve contributions to the periodical in that same year 1766.<sup>2</sup>

Having personally experienced the intense intellectual activity of the physiocrats, Adam Smith was suitably impressed by these 'men of great learning and ingenuity' whose theory he judged to be '[...] the nearest approximation to the truth that has yet been published upon the subject of political economy' (Smith 1776, IV, ix:379, 388). For his part, Smith had started working on the *Wealth of Nations*, while being bored in Toulouse in the early summer of 1764 (Skinner 1987:358). By the time his great work was finally ready for print nearly 13 years later, the situation back in Paris had dramatically changed. Quesnay was dead and his school a spent force. While the Scottish moral philosopher, in the calm surroundings of his native Kirkcaldy had slowly been constructing an economic treatise which became an instant and lasting success, the *économistes* were rapidly losing their influence on the feverish economic and political debates in Paris.

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<sup>1</sup> Dupont (who in 1774 added 'de Nemours' to his name) adhered to Quesnay's cause from 1763. See Hecht (1958:263-4) and McLain (1977:39-40, 42). In July 1765 the *Journal de l'agriculture, du commerce et des finances* was set up, as a supplement of the *Gazette du commerce*. Upon recommendations by Trudaine and Morellet, Dupont was made editor, and immediately started to place mainly physiocratic contributions. Soon this editorial bias raised objections from the owners of the journal, finally resulting in the replacement of Dupont in December 1766. By that time however Le Trosne and Dupont had 'converted' the abbé Baudeau (see Daire 1846:646-7 and Higgs 1952:63-4), who placed his journal de *Ephémérides du citoyen* at the service of the physiocrats and as editor became one of the most zealous defenders of the doctrine. (On this important journal see Coleman 1962 and Goutte 1994). Mirabeau organised his weekly *Mardis* in his residence in the rue de Vaugirard from 1766 until 1777 (see Schelle 1913-23, II:23; Hecht 1958:269). About the importance of these and other attempts at institutionalisation of the physiocrats see Delmas, Demals, Steiner (1995:16-25). It is possible that Smith met Quesnay at Mirabeau's place, maybe even at one of the Tuesday evening dinners, or otherwise in the doctor's entresol at Versailles (Stewart 1793:45 is not specific on the matter; Rae 1895:215-20 speculates about both places).

<sup>2</sup> A full bibliography is appended to Hecht's (1958) biography of Quesnay.

In addition to numerous social and political factors ranging from harvest failures to the scheming of their political enemies, one reason for the remarkably swift decline of the physiocratic school was doubtlessly the very uncompromising manner in which they defended their program of economic liberalisation. They insisted that theirs was a doctrine which had to be accepted in full, from its basic principles to all its practical consequences. Instead of qualifying the maxims of their ageing leader and assimilating some of the objections of their adversaries, they mounted a concerted defense, ever appealing to the 'evident truth' of their system until the general educated public lost all interest.<sup>3</sup> The most lasting mark of this pretentious attitude are the customary references in most general histories of economic thought to the physiocrats as a 'sect', or a group of 'disciples' 'converted' to a 'creed', listing to a single 'Master' (see e.g. Schumpeter 1954:223-5; Hunt 1979:30; Ekelund and Hébert 1990:85). While this evocative language was originally mainly used by their enemies, like Grimm, even a sympathetic contemporary like Smith was keen to point out that the *économistes* '[...] all follow implicitly, and without any sensible variation, the doctrine of Mr. Quesnai' and that they therefore perpetuated his 'errors' (1776, IV,ix:389). The opinion that all physiocrats defended a single 'homogeneous set of doctrines' is accepted by specialists until the present day (Vaggi 1987:193 n.1).

To a surprisingly large degree this view is correct. In the light of the later reception of Quesnay's work this is also rather curious. Paradoxically, many later students of physiocracy, some of them first rate economic theorists, have emphasised the promising basis provided by Quesnay's formal approach to economic enquiry. Most famous are Marx's admiration for Quesnay as an economic theorist and Leontief's reference to his own model as a *Tableau Économique* of the United States.<sup>4</sup> More recently, the *Tableaux* have been interpreted as a sophisticated instrument to study and quantify economic growth (see Eltis 1984). Furthermore, Vaggi (1987) has shown that Quesnay was not only interested in the study of changes in output levels and consumption patterns, he also develops a number of concepts to describe the effects of changes in relative prices.

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<sup>3</sup> An example of the combative style adopted by the physiocrats is the following modest explanation by Le Trosne in an article extolling the 'usefulness of economic discussions': '[...] if the partisans of freedom and the right of property have at times appeared redoubtable Debaters, then it is because they start from principles which are as simple as they are certain and from which only after mature reflection consistent consequences are drawn [...] They never retreat; attacked from all sides, they have not yet lost a tiny plot of ground. [...] they have found themselves in perfect agreement on their principles and their logic; none of them has disowned his comrades in arms, or has put forward anything which is not admitted by them all (Le Trosne 1768b:51-2 n.). This was written by Le Trosne even prior to the most damaging attacks of critics like Galiani, Linguet and Necker.

<sup>4</sup> For discussions of the relations between the theories of Marx and Quesnay and the former's reading of the latter see especially Nagels (1970), Delmas and Demals (1995) and Gehrke and Kurz (1995). Philips (1955) is the most well-known attempt, following Leontief's suggestion, to write the final version of the *Tableau* as an input-output model. For a critical discussion of this type of reconstruction see Pressman (1994) chapter 5.

The striking contrast between the immediate failure of Quesnay's followers to develop his work and its belated recognition as an auspicious approach to economic theory, leaves the strong impression of a brilliant pioneering effort which came to nothing due to its sanctification by its first adherents. This impression is not substantially altered by the contributions to a recent colloquium devoted to the international diffusion of physiocracy (*Economies et sociétés* 1995). Certainly, physiocratic theory continued to have a direct impact on economic discussions in many European countries for several decades. However, to a very large extent the precise content of the ideas of Quesnay and his immediate followers got distorted and vulgarised by propagandists and political economists who only selected those elements which fitted their specific purposes from the body of the doctrine.<sup>5</sup> At the same time, the innovative formal approach of Quesnay is generally understood to have suffered from a sheer unsurmountable 'entry barrier' due to its high 'theoretical level and the closed character of its analytical body' (Argemi, Cardoso, Lluch 1995:477).

Central to this thesis are some notable exceptions to this general pattern. It will be argued that almost immediately a few attempts were made to develop the physiocratic theoretical framework by writers who aspired to the same formal precision attained by Quesnay in his later economic writings. The two most perceptive and original theorists in this regard are Turgot and Isnard. Neither can be considered as a straightforward physiocratic writer. Indeed both men rejected the label *économiste*, disapproving of the uncritical adhesion to all of Quesnay's principles with which the term was associated.<sup>6</sup> It is precisely their judicial attitude towards physiocratic theory which will be the focus of our attention.

The extent and nature of the (dis)agreements of A.R.J. Turgot (1727-1781) with various elements of physiocratic theory has been discussed many times.<sup>7</sup> Opinions on Turgot vary widely,

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<sup>5</sup> For example, in Britain the underconsumptionist ideas of Spence and Malthus or Gray's defense of the sterility of industry owe to the physiocrats. However, these writers do not adopt the basic physiocratic analytical framework. For discussions see Spengler (1945); Meek (1962:313-44) and (345-366); Semmel (1964-5); Delmas and Demals (1995b); Hollander (1994).

<sup>6</sup> As early as 1750 Turgot writes that '[t]he respect for the new-born philosophy which the glamour of its novelty inspires in men tends to perpetuate the first opinions: the sectarian spirit comes to be attached to it' (Meek 1973a:47). It is this sectarian spirit which he later denounces in the closest followers of Quesnay: '[...] the great respect of the disciples makes that they always want to link what they say to what the masters [Quesnay and Mirabeau] have said, from which I conclude that they will always reason wrongly because in order to reason straight one has to start from scratch [*table rase*], something which is disagreeable to any sectarian spirit' (letter dated 15/2/1771; Schelle III:474; cf. II:677). Turgot's strong objections against Dupont's 'corrections' intended to bring a number of ideas in the *Reflections* in line with physiocratic doctrine are well-known (see Schelle III:373-84).

<sup>7</sup> The details of the life of Anne Robert Jacques Turgot, Baron de l'Aulne, have frequently been described. Dakin (1939) remains the best biography in English. In addition, the introductions by Schelle (1913-23) to the five volumes of his edition of Turgot's collected works are a valuable biographical source. A brief but good account is given by Groenewegen (1987b). Here only the most basic facts of his life can briefly be recalled. Turgot was born on 10 May 1727, the third and youngest son of a Norman noble family with a long

ranging from students who see him as a practically minded administrator who subscribed to most physiocratic opinions, to commentators who maintain that he disagreed with the 'sect' on the most fundamental methodological principles and theoretical conclusions.<sup>8</sup> A few facts are undisputed. First, a number of Turgot's economic convictions were formed before he came into contact with Quesnay. Second, once he got acquainted with Quesnay's work, probably sometime between 1756 and 1759, he immediately appreciated its significance. Third, from then onwards until his death he entertained amicable contacts with the narrow circle of the doctor's closest followers.<sup>9</sup>

One problem with respect to the interpretation of the relations between the economics of Quesnay and Turgot is that the detail of the opinions of both men are not always entirely clear, due to indifference on some points or the fragmentary nature of their writings. This accounts for a number of uncertainties, and in part for the large latitude in interpretations concerning their (dis)agreements.<sup>10</sup> In the interpretation offered in the next chapters an attempt is made to amend this difficulty where possible by examining some less original, but 'well placed' writers. In the first place, a mediator worthy of special attention is Guillaume-François Le Trosne (1727-1780). A

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tradition in public administration. He was originally destined by his father for a career in the church. After attending the seminary of Saint-Sulpice he was to undergo the final preparations for the priesthood at the Maison de Sorbonne, where he was a resident student from June 1749 to early 1751. Upon his father's death he decided not to take his final vows but to pursue an administrative career instead. At first he obtained some minor juridical positions, which during the 1750s left him enough time to pursue extensive studies and to engage in Paris' intellectual circles. In 1761 he was appointed by the liberal minister Bertin to the demanding job of Intendant of Limoges a large and relatively backward district. Upon Louis XVI's succession to the throne in 1774 Turgot was recalled to Paris to take part in the Royal Council. For a short period he was Minister of the Navy, but soon was given the important position of Controller General, or Minister of Finance (24 August 1774). His liberal reforms such as the reintroduction of the domestic free trade in grain and the suppression of the guilds provoked much resistance, eventually causing his fall on 12 May 1776. He spent the last five years of his life in retirement in Paris. His health rapidly deteriorated as the result of attacks of gout. He died in March 1781.

<sup>8</sup> For recent rather varied discussions see Morilhat (1988), Meyssonier (1989), Larrère (1992), Faccarello (1992). Generally, Morilhat emphasises the basic similarities between Turgot's economics and physiocratic doctrines. Larrère does so to a lesser extent. Meyssonier and Faccarello highlight the originality of Turgot, at times neglecting the physiocratic characteristics of his mature work.

<sup>9</sup> Turgot's earliest economic writing, a letter to the abbé de Cicé, dates from 1749 (see section 2.3.2 below). Under the guidance of Gournay, whom he got to know in the early 1750s, Turgot read the works of a number of British economists, translated Tucker and commented on the former's translation of Child (see Schelle 1897; Groenewegen 1977:xiii-xiv; Murphy 1986b). In 1757 he contributed the economic articles 'Fairs' and 'Foundations' to the *Encyclopédie*. The first explicit reference to Quesnay's work is in his eulogy for Gournay (1759:29). By this time Turgot is likely to have known Quesnay personally (Schelle 1913-23, I:74). The latter's theories had an increasing influence on Turgot from then onwards (cf. Meek 1973a:15ff). In a letter to Dupont (20/2/1766; Schelle 1913-23,II,507) Turgot describes himself as a disciple of both Gournay and Quesnay. During his period in Limoges, when he wrote his most significant economic works, his contacts with the physiocrats were maintained mainly through his extensive correspondence with Dupont, as well as through his attendance at Mirabeau's *mardis* during his visits to Paris (Schelle 1913-23, II:22-3).

<sup>10</sup> For example Quesnay's discussion of the concept of value are not very detailed, while Turgot's are very unfinished (see chapter 3). Another example is Turgot's discussion of variable returns in agriculture which is superior to Quesnay, but which is not applied to the theory of rent (see section 8.3.3.2).

relatively little known Royal Councillor from Orléans, Le Trosne is recognised by a few commentators as the '[...] most independent of Quesnay's followers' (Koch 1961:322 n.1; cf. Beer 1939:187, Schumpeter 1954:225).<sup>11</sup>

The personal acquaintance between Turgot and Le Trosne probably dates from 1765 or a little earlier, when the former had copies of the latter's brochure *La liberté du commerce des grains toujours utile et jamais nuisible* distributed among the officials of the Limousin in order to explain the expected benefits from the edicts of 1763-4, which liberalised the grain trade (See Schelle 1913-23 II:48, 469-77; Dakin 1939:97). Their friendship continued until Le Trosne's death in 1780.<sup>12</sup> An interesting and rarely noted aspect of Le Trosne's economic writings is that on all substantial points at which he differs from Quesnay, he agrees with Turgot.<sup>13</sup> As such his views are particularly useful for the interpretation of the differences between the latter two more original theorists. Moreover, as his controversy with Condillac shows, Le Trosne has a predilection for the finer points of

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<sup>11</sup> Guillaume-François Le Trosne (sometimes spelled Letronne) was born in Orléans on 13 October 1728. His father, who was a judge, decided that his son should also follow a juridical career. Consequently Le Trosne studied natural law at the university of his home town under the famous contract law specialist Robert Pothier (1699-1772). In 1753 he was appointed *avocat du roi* at the Presidial Court of Orléans, a position he kept until his retirement on 10 January 1775 (Mille 1905:1-2). Probably in the early 1760s he came in contact with Quesnay's ideas. The first explicitly economic contribution are his *Notes économes* which were appended to his *Discours sur l'état actuel de la magistrature* (1764). In particular during the years 1765 to 1767 he wrote a considerable number of articles in the *Gazette du Commerce* (23 and 26 February and 2 March 1765), the *Journal de l'agriculture* (July, August, September, December 1765, January, March, July, November, 1766) and the *Ephémérides du citoyen* (October, December 1766, November 1767). Probably in the early 1770s Le Trosne established a friendship with Condillac. On 23 April 1773 the famous philosopher bought the castle of Flux on the left bank of the Loire near Beaugency a little downstream from Orléans (Sgard 1981:95), where he often received Le Trosne (Lebeau 1903:8-9 n.4). On February 8, 1776, Condillac became a member of the *Société d'Agriculture* of which Saint-Péravy was president. It was in response to the latter's *Le commerce et le gouvernement* that Le Trosne wrote his only extended theoretical economic work *De l'intérêt social* (cf. chapter 2, n.1 below). Beside a special interest in the theoretical aspects of physiocratic economics and attempts to demonstrate that the doctrine was part of the larger science of natural law (see esp. Le Trosne 1777a), Le Trosne also gave detailed applications to physiocratic theory. This he did especially in his 1770 work on the effect of indirect taxes and *De l'Administration provinciale et de la réforme de l'impôt* (1779) (For a discussion of the importance of the latter contribution see Jones 1995:7-8). Le Trosne died in Paris on 26 May 1780 (cf. next note). Probably the only study exclusively devoted to Le Trosne's work is the appropriately titled Mille (1905), which is still quite useful even though Mille has the tendency to exaggerate Le Trosne's originality on a number of points (see e.g. pp. 42, 65, 135, 252-3).

<sup>12</sup> In Turgot's correspondence with Dupont there are infrequent references to meetings with Le Trosne, such as invitations to dinners (see Schelle II:516; III:58) and stop-overs in Orléans on the route between Limoges and Paris (Schelle II:677). After Turgot's fall from power in 1776 and Le Trosne's retirement, the two men may have intensified their contact (Schelle V:584-5, 588-9, 615-16). In a letter to Dupont of 30 May 1780 (Schelle V:622), Turgot announces Le Trosne's death: 'I was at the point of writing to poor Le Trosne to ask him to also come and have dinner at my place, when I received a death notice. On Wednesday he had gone to bed, believing only to have a cold and fever. That cold was a such a violent pneumonia that on Friday he was dead. It is said that he bathed imprudently'.

<sup>13</sup> Of particular interest are his notions of 'equal benefit in exchange' (see section 2.3.4.2), that of the 'redistribution of surplus' (section 3.3.2), the opinion that money is not simply a 'sign' but a commodity (section 4.4), and to a lesser extent the notions of profit as a return on capital (section 7.3.6 n.104) and that wage earners will normally be able to make some savings (section 6.2.1).

physiocratic terminology. As will be seen, this also gives his work a particular relevance for the interpretation of Isnard's contribution.

A second, much closer friend of Turgot whose economic work will be examined is the abbé André Morellet (1727-1819).<sup>14</sup> Originally destined for a career in the church both men met at the maison de Sorbonne in 1749. Subsequently, they became acquainted with Gournay, contributed to the *Encyclopédie* and gained entry to various famous salons. During the 1760s and 1770s Morellet built up a reputation as an aggressive pamphleteer defending the liberal policies of several reforming ministers.<sup>15</sup> In addition to his elegantly written memoirs, which contain interesting accounts of the salon life of the *ancien régime* and of the revolution, it is this activity for which Morellet has primarily been remembered. He has not often been rated as a economic theorist.<sup>16</sup> The main reason

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<sup>14</sup> The primary source of information concerning André Morellet's long and colourful life are his memoirs (Morellet 1821). In addition, a full and extensively annotated edition of his correspondence has recently been published (Morellet 1991, covering the period 1759-85). Many further details can be found in Di Rienzo (1994). Of interest is also the collection of essays edited by Merrick and Medlin (1995). Included in the latter work is a catalogue of Morellet's many published works and a bibliography of the secondary literature on Morellet. The barest summary of his life is as follows. André Morellet was born in Lyon on March 7, 1727, as the first of fourteen children of a stationer. After attending a Jesuit college, he was admitted at the age of fourteen to the prestigious seminary *Trente-trois* in Paris. In 1748 Morellet entered the *société de Sorbonne* where he read widely in theology and philosophy and befriended the later ministers Turgot and Loménie de Brienne. In 1752, after achieving his licence in theology and going through life henceforth as the abbé Morellet, his financial situation compelled him to become the private tutor to the son of the Polish ambassador until the end of the 1750s. From 1752 he knew Diderot, who asked him to contribute several entries on theological matters to the *Encyclopédie*. He also became acquainted with D'Alembert and Voltaire, and in 1760 due to a pamphlet defending the *philosophes* he was put in the Bastille for six weeks. During the 1760s he became a regular visitor to a number of famous salons, those of Mme Geoffrin, Holbach, Helvétius, and Mme Necker. Partly through these salons he established contacts with an impressive number of the leading figures in Paris', and indeed Europe's intellectual life. His translation of *Dei delitti et delle pene* (1766) brought him in contact with Beccaria and with the brothers Verri and Frisi. In 1770 he got to know lord Shelburne whom he visited in England in 1772. There he was introduced to Price, Priestley and Benjamin Franklin. He translated a number of articles of the latter (see the catalogue in Merrick and Medlin 1995). In 1785 he was elected a member of *Académie française* of which institution he saved the archives during the revolution. In 1807 he took part in the legislative council. He lived until a high age, suffered a stroke in 1815 and died in Paris on 12 January 1819.

<sup>15</sup> Morellet (1821:35) notes that his interest in the subject of *l'économie publique et du gouvernement* was first established in the 1750s when his friends Turgot and de Brienne had started their administrative careers. Around 1755 Turgot introduced him to the liberal officials Gournay, Trudaine, and his son de Montigny, and Malesherbes (Morellet 1821:37). Gournay directed his reading to English economic literature and Cantillon. His economic publications were often written at the request of liberal officials in support of specific economic reforms, like the removal of prohibitions to the production of painted textiles (1758; see Larrère 1992: 138-44), against the privileges of the *Compagnie des Indes* (1769), in defense of the free trade in grain (1764, 1770, 1775) (see below chapter 4 note 5). He was a fanatical collector of economic literature. See the *Catalogue d'une bibliothèque d'économie politique* appended to his *Prospectus* (1769; for an interesting use of this catalogue see Théré 1984, 1990), and the *Catalogue des livres de la bibliothèque de feu M. l'abbé Morellet* (1819).

<sup>16</sup> For example, in Schumpeter's judgment Morellet was '[...] a very minor light among the *encyclopédistes*- not more than an effective pamphleteer. We need not mention his economic work' (Schumpeter 1954:138 n.27).



for this is the neglect of Morellet's numerous manuscripts, which have been preserved in the municipal library of Lyons. A large part of these manuscripts were written for his *Nouveau dictionnaire de commerce*, an ill-fated undertaking on which Morellet worked more than twenty years but of which only the *Prospectus* (1769) was ever published. Only quite recently have the manuscripts been used in studies by Meyssonier (1989) and especially Di Rienzo (1994).<sup>17</sup>

Here Morellet's work will mainly be examined in the context of the work of his friend Turgot, who is certainly the more original of the two. Arguably, Morellet had a more intimate knowledge of the latter's economic ideas than any other contemporary (including Dupont and Condorcet). Especially his views on the theory of value, money and capital are often very close to Turgot, or consist of a detailed criticism of the latter. Morellet appears to never have established the same close personal contacts with the physiocrats as Turgot. Nevertheless, certainly during the 1760s and 1770s his ideas are heavily influenced by physiocratic theory (cf. Weulersse 1910, II:723-4).<sup>18</sup>

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<sup>17</sup> Morellet started working on his *Nouveau dictionnaire* when the publishers Estienne asked him to prepare a new edition of the *Dictionnaire universel de commerce* of the brothers Savary in 1762 (see Perrot 1992:97-125). He decided to write a completely new work in five volumes for which many recent economic literature, notices and manuscripts (also those of Gournay) would be used (Morellet 1769:353-8). Only the *Prospectus* was eventually published in May 1769. It was favourably reviewed by Diderot (1984:229-34) and by Dupont (*Ephémérides du citoyen* 1769, vol.5,212-35). An unfavourable discussion appeared in the *Journal Encyclopédique* (see Di Rienzo 1994:119-120). In a letter dated 10/6/1769, Hume who, like Adam Smith had been send a copy of the *Prospectus*, compliments Morellet (Hume 1932:203-6). The five volumes of the dictionary itself were scheduled to appear between October 1770 and December 1775. As to the reasons why this never happened, Morellet names the distractions of having to write pamphlets at the requests of his patrons (see note 15 above) and the fact that he did not obtain the useful position of secretary of the *bureau du commerce* (Morellet 1821:176185). However, he also admits that the project was very ambitious. It was only abandoned when the Revolution arrived. In his memoirs he writes that the fact that he never fulfilled his task was '[...] the mistake of my literary life' (1821:176). Most of the 91 manuscripts (numbers 2491 to 2582 of the municipal library of Lyons) are the relics of Morellet's unfinished labours. The enormous amount of material is rather variable in quality. However, because of the wide range of economic issues covered and great number of authors cited, it forms a valuable resource for the study of the development of economic theory in the 18th century. In the present work no attempt can be made to consider Morellet's manuscripts in a comprehensive manner. For such an attempt, see Di Rienzo (1994). Due to the limited period that I had access to the manuscripts, I have made a very small selection specifically choosing only those notebooks appearing to be the most relevant for the understanding of Turgot's ideas and their relation to physiocratic theory (see the bibliography). Unfortunately, Morellet's commentaries on other writers had to be largely ignored. Only some references to Cantillon [see sections 6.4 and 7.3.6] and Smith [see sections 6.4 and 8.2 n.12] have been included; especially the latter's work appears to have considerably influenced Morellet in later years. *Inter alia*, the manuscripts 2540-3 contain his unpublished translation of the *Wealth of Nations*. It seems quite possible that Morellet's (unsurprising) failure to reconcile the theories of writers like Galiani, Cantillon, Hume, Turgot, and Smith contributed to his failure to finish the theoretical third part of his dictionary.

<sup>18</sup> Grimm aptly characterised Morellet's position as ' [...] not in the bosom of the physiocratic church but at the entrance' (cited by Gordon 1995:53). Morellet (1821, II:219) himself recalls his meeting with Napoleon Bonaparte at the end of 1803, who greeted him with: 'Ah oui [...] you are the abbé Morellet. You are an *économiste*, aren't you?' To this Morellet replied that he was not a 'pure' one and that he '[...] introduced some modifications to their theory'. He further denies that he recognised Quesnay as his master, a denial which may or may not have been influenced by the fact that the physiocratic doctrine was discredited by that time (cf. Steiner 1995). As late as 1817, Dupont asserts that during the revolution the *économistes* were reduced to very small group consisting of himself, Abeille, Garnier and Morellet (see Delmas and Demals

Le Trosne and Morellet are mainly given supporting roles in the following chapters. On the other hand, like Turgot, Achylle Nicolas Isnard (1749-1803) must be considered as a leading man. Compared to the other three, who are almost exact contemporaries, Isnard is a far more isolated figure belonging to a next generation.<sup>19</sup> The only direct evidence that he entertained personal contacts with the circle of the physiocrats consists of a reply from Dupont to Isnard, dated 28 October 1773, to an earlier letter or conversation.<sup>20</sup> This letter predates by eight years the latter's first and principal contribution to economic theory, the two volume *Traité des Richesses* (1781). In the preface of this work Isnard clearly acknowledges the influence of *le système social de M. Quesnay* which '[...] is founded on the right of property, and has as its object to arrive at the largest possible population through the greatest affluence and wealth' (Isnard 1781, I:xii-xiii). These are principles which are fully endorsed by Isnard (see especially section 6.5 below).<sup>21</sup> At the same time,

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1995b:118).

<sup>19</sup> The only detailed biographical source about Isnard is Renevier (1909) which is used by all later commentators. The most essential facts of his life are the following. Achylle Nicolas Isnard was born at Paris on 25 February 1749. In 1766 he entered the *Ecole des Ponts et Chaussées*. After completing his studies he started a career as a civil engineer in which he only very gradually obtained promotions through a succession of appointments. After being apprentice engineer for some time he became assistant engineer from 1776 at Arbois, in the generality of Besançon, from 1785 in Rouen and towards the end of the 1780s in Evreux. At the end of 1791 he was finally promoted to *ingénieur ordinaire* at Le Havre, and at the beginning of 1794 to chief engineer at Carcassonne. However, when his wife died in February 1795 his salary proved insufficient to maintain his three children. He resigned from government service and returned to Paris where he lived for some time with his children in difficult circumstances. In 1798 he was recalled by Napoleon to take part in the expedition to Egypt. For unknown reasons he was left behind. Instead he was appointed as a member of the Tribunal at the beginning of 1800. In this capacity he prepared a number of reports on public finance, conscription, the maintenance of roads and construction of bridges. In 1802 he was dismissed and given back his position of chief engineer this time at Lyons. There he died 25 February 1803, at the age of 54.

Apart from his *Traité des Richesses* (1781), Isnard published the following works: (1) *Catéchisme sociale ou instructions élémentaires sur la morale sociale et l'usage de la jeunesse* Paris: Guillot 1784; (2) *Plan d'une Banque nationale de France, ou d'une caisse générale de Recettes & de Paiements des Deniers publics & particuliers* Jersey 1787; (3) *Observations sur le principe qui a produit les révolutions de France, de Genève et d'Amérique au XVIII<sup>e</sup> siècle* Evreux: V<sup>e</sup> Malasis 1789; (4) *Réponses aux principales objections à faire contre l'impôt unique* 1789; (5) *Les Devoirs de la 2<sup>e</sup> Législature ou des Législatures en France* Paris: Mecquignon 1791; (6) *Considerations théoriques sur les caisses d'amortissement de la dette publique* Paris: Duprat 1801. Furthermore Renevier names 11 reports prepared by Isnard for discussion by the Tribunal (cited by Klotz 1994:31-2 n.6).

<sup>20</sup> Letter W 2-27 of the correspondence of Dupont de Nemours in the Eleutherian Mills Historical Library. Dupont addresses the 24 year old with '*mon très cher et très aimable Isnard*' and refers to 'our dispute' at the beginning of the letter. This suggests an ongoing contact between the two men. Mc Lain (1977:156 n.13) calls the letter 'a rather brusque reply' by Dupont to a request by Isnard for support for his work in mathematical economics. There is little in the letter to support this claim. Interestingly, Dupont discusses the nature of differential calculus which he believes (apparently in contrast to Isnard) violates the simple rules of arithmetic in some ways. However, there is no clear reference to the application of mathematics to economics.

<sup>21</sup> He contrasts this system to those populationist authors who attempt to '[...] achieve wealth through population even in defiance of the rights of property and the natural laws of production'. Further he refers somewhat vaguely to authors who have adopted 'mixed systems' (Isnard 1781,I:xiii). The numerous references throughout the 690 pages of the *Traité* show that he was well read in the then wide science of political

he also points out his disagreement with the most famous of the physiocratic principles, namely that 'agriculture is the *unique* source of wealth' (Isnard 1781, I:xiii).<sup>22</sup> As will be seen, the proximity of many of Isnard's ideas to those of Quesnay justifies the qualification 'dissident physiocrat' (Renevier 1909; cited by Ingrao and Israel 1990:62).

It has to be pointed out that the reading and interpretation of the theoretical economic writings of not only Isnard, but also those of Le Trosne, Turgot and Morellet present particular difficulties, which makes it all the more necessary to interpret them within the larger context of physiocratic theory. In the first place, most of their theoretical discussions are conducted at a high level of abstraction. The attempts at formal precision are a striking characteristic of the texts we shall focus on. This *volonté de rigueur* is a distinctive feature of the physiocratic literature generally (Delmas, Demals, Steiner 1995:8-12).

In a sense, the abstract language employed facilitates the task of the modern student of forming an idea about the larger analytical framework elaborated in the various texts. This is so because the physiocratic terms, (and many of the terms used by the writers under consideration will be identified as such), reflect the specific physiocratic conception of economic phenomena more consistently than is the case in any earlier writers. However, at the same time this makes the need for the modern student to make a serious attempt at understanding the 'intended meaning' of terms and phrases all the greater. For instance, it is not immediately clear why Le Trosne insists on the distinction between 'superabundance' [*superflu*] and 'excess produce' [*excédent*]; what the meaning is of Morellet's distinction between 'active' and 'idle' capital [*capital agissant et oisif*]; or why Isnard distinguishes between 'heterogeneous' things and 'homogenous' wealth. All of these questions have non-trivial answers which do not only have to be understood within a specific theoretical framework, but actually clarify this framework.<sup>23</sup>

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economy. He cites among other writers Bacon, Boisguilbert, Child, Euler, Forbonnais, Graslin, Hume, Law, Locke, Melon, Montesquieu, Morellet, Necker, Nicols, Newton, Pinto, Quesnay, Rousseau and Vauban.

<sup>22</sup> Two more, closely related physiocratic opinions which he contests are that 'industry does not multiply wealth' and that 'tax should only be levied on the net product of the land'. Isnard's position on the former point will be discussed in section 3.5 below; his theory of taxation can be found in volume II:2-49. His position is that a direct tax should be levied on the net product of any activity. Finally, Isnard rejects the opinion (not held by all physiocrats) that 'the sovereign is co-proprietor of the net product' (Isnard 1781, I:xiii).

<sup>23</sup> The methodology of the physiocrats is generally and not very revealingly considered as a mixture of empiricism and rationalism (see e.g. Neill 1948, 1949; Lutfalla 1963; Giacometti 1985; Coleman 1995:109-24). Their attempt to develop an abstract economic nomenclature is especially in evidence from the second half of the 1760s. Influentially, Neill has argued that this is due to the 'Cartesian' approach of Quesnay's younger followers (see also Pribram 1983:103-4). This interpretation seems unwarranted. However, it has to be acknowledged that this is not a simple issue. One important observation can be made. Generally, the abstractions used by the physiocrats serve to express the perceived function of classes of objects and people within the economy understood as a *reproductive system*. For example the distinction between *avances* and *produit net* (commodities which are/are not required for reproduction) and *avances annuelles* and *primitives* (commodities which are/are not used up in one reproductive period) are abstract categories which make perfect

A second problem concerns the unfinished character of the work of the writers under consideration. This is especially true in the case of Turgot and Morellet. Turgot's economic writings consist of a number of relatively short texts, of which some of the most important ones are apparently hastily written commentaries on other people's writings, discussions of individual issues of economic policy, or unfinished fragments. His most important theoretical contribution, the *Reflections on the Formation and Distribution of Wealth*, has even been described as '[...] not much more than a very elaborate analytical table of contents written for a bulky nonexistent treatise' (Schumpeter 1954:248). Even though Turgot is a systematic thinker of high calibre, this poses a serious danger of reading too much consistency into his writings as a whole. The puzzle with which Turgot has left us is not merely how he might have assimilated into the framework of the *Reflections* for example his discussion of variable returns in agriculture in the 'Observations on a Paper by Saint-Péravy' (1767), or of the loan market in the 'Paper on Lending at Interest' (1770). One can have real doubts whether his analysis of isolated exchange in 'Value and Money' (1768) can be reconciled at all with the economic theory of the *Reflections*.<sup>24</sup>

In some instances Morellet's manuscripts provide interesting clues with respect to the interpretation of ambiguities in Turgot's work. However, those manuscripts themselves raise many more questions than they answer. If the *Reflections* is an analytical table of contents for a 'bulky nonexistent treatise', then Morellet's manuscripts should be seen as providing the bulky material for an economic treatise of which the analytical plan has gone missing. A superficial inspection of his manuscripts reveals many contradictions, countless alterations, and tiresome labouring of points, which suggest that he never came close to finishing his ambitious *Dictionnaire de Commerce*.

The reading of Isnard's economic work is 'exceedingly arduous' (Jaffé 1969:22) for a similar reason. Unlike Turgot and Morellet, Isnard did in fact deliver a lengthy economic treatise in the shape of the *Traité des Richesses*. However, the crucial book I of this work intended to provide the basic principles of his economic theory, hardly forms a perfectly coherent whole. In addition to the fact that 'Isnard's algebra is as turgid as his prose' (*ibid.*21), the main problem of the work is that

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sense within this context. Also with regards to the tripartite social classification, Quesnay is very clear as to the reason of these abstractions (see below chapter 5 note 2). In some (but certainly not all) cases the writers under consideration should be understood to develop these categories. For example, Turgot's and Morellet's distinction between 'active' and 'idle capitals' stands for 'savings which are/are not employed in reproduction'; Turgot's distinction between 'entrepreneurs' and 'simple workers' is obviously based on the criterion that the two classes have a different function *in production*. Le Trosne's term *excédent* is very consciously used to denote 'goods which are produced in order to obtain in exchange other goods needed in reproduction'. The physiocrats may not always clearly explain the criteria informing their abstractions, but Condillac's verdict that the *économistes* 'started to speak and to write before having constructed a language' (Condillac 1776:241) is certainly too harsh.

<sup>24</sup> For a further discussion of this point see sections 2.3.3 to 2.3.5. For my dating of 'Value and Money' see chapter 2 note 55.

he does not unambiguously work out the connections between his discussions of exchange, production and distribution. It will be argued that his separate discussion is largely a response to the physiocrats who he believed did not properly distinguish between those issues. The fact that Isnard does not really 'reconnect' these issues and provide an alternative theory of the 'normal' distribution of incomes, gives his work a somewhat fragmentary character.

The principal manner in which the analytical economic content of the writings of Le Trosne, Turgot, Morellet and Isnard will be elucidated is by examining similarities and differences between them on a number of subjects. However, it would be disingenuous to pretend that the interpretation offered in the following chapters is the result of a wholly unprejudiced reading and comparison of their writings. It is naive to think that anybody comes to the library or the archive to study 18th century economic literature without their own theoretical preconceptions. Therefore it is only fair to the unsuspecting reader to point out that the present interpretation is influenced by the view that in the 18th century a distinct approach to economics was emerging, known as the 'surplus approach'.

It is not easy to give a precise definition of the surplus approach to economics which is satisfactory in a historical context. Generally, it refers to the classical tradition of economic theory in which the production of a social surplus and its distribution is understood as the central economic problem. The most recent detailed attempt to demonstrate the early origins of this tradition has been made by Aspromourgos (1996), who traces these origins from Petty (1623-1687) through Cantillon (c.1680-1734) and Quesnay to Adam Smith. This supplements earlier discussions of commentators who have highlighted the similarities in the approaches of Quesnay, Smith, Ricardo (1772-1823), Marx (1818-1883) and Sraffa (1889-1983) (see e.g. Meek 1974; Garegnani 1984 and 1987). Quesnay's role as a major figure in the formation of this classical approach is widely recognised (see e.g. Garegnani 1984; Blaug 1987:439; Vaggi 1987c:875). It will be argued that by and large Le Trosne, Turgot, Morellet and Isnard also belong to this tradition.

The claim that Isnard should be seen as a classical economist is perhaps the most surprising, since the dominant modern view is that he is a precursor of Léon Walras. This is partly due to the curious reception of the former's *Traité*. After having been completely ignored for nearly a century, it indeed seems to have been Walras who first appreciated the importance of the few mathematical examples contained in the work. Subsequently, Jaffé (1969), following more general comparisons by Schumpeter (1954), has argued that Isnard substantially influenced Walras' general equilibrium theory. It may well be that this fascinating hypothesis is correct.<sup>25</sup> Nevertheless it will be argued

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<sup>25</sup> A recent re-examination of Jaffé's evidence by Klotz (1994) does not raise serious doubts. Jaffé's interpretation is also accepted with some minor qualifications by Ingraio and Israel (1990:61-6). It has to be noted that the possibility that Walras borrowed some ideas from Isnard does not necessarily conflict with the interpretation offered here. To a large extent Jaffé's thesis is concerned with *Walras' reading and use for his*

that Isnard should be understood as a theorist who attempts to develop Quesnay's conception of the economy as a circular reproductive system.<sup>26</sup> As will be seen, this has important consequences for the interpretation of his theories of value, of production, of capital etc.

It has been attempted to use the notion of the emergence of a 'surplus approach' in the 18th century as a rather flexible 'heuristic device'. Perhaps the classical tradition should be understood as a series of variations on a common theme, rather than a single cumulative effort. The contributions of the writers under consideration should not necessarily be seen solely within the context of a transition between Quesnay and Smith.<sup>27</sup> One of the main reasons to re-examine their writings is to highlight the further development of *particular* aspects of physiocratic theory. A good example of why it is important to be aware of the variety within the classical tradition is the development of the content of the very notion of 'surplus' after Quesnay. It is well possible that Smith's well-known discussion (1776,II,iii) of the idea that the 'annual produce' of an economy 'divides itself into two parts', one 'destined for the replacing of capital' and the other for the payment of profit and rent, is based on Quesnay's analysis (Groenewegen 1987a:213). As will be seen, Isnard shares Smith's rejection of Quesnay's opinions that only agricultural labour is 'productive' and that rent is the only surplus income. However, Isnard's alternative notion of 'surplus' as a physical magnitude [*masse réelle*] is quite different and indeed simpler than Smith (for Smith's notion of surplus see O'Donnell 1990:29-52; cf. Vaggi 1995. For Isnard's notion see section 3.4 below).

Generally, the writers under consideration adopt Quesnay's conception of the economy as a single circular, surplus-generating system. Their specific contributions qualify and elaborate the physiocratic theory of how 'the market', or competition, ensures reproduction by establishing prices which allow producers to purchase inputs in required quantities and how it brings about the distribution of the social surplus. The variations and ambiguities concerning the analytical details of the works Le Trosne, Turgot, Morellet and Isnard will be examined at length.

There will therefore be a strong emphasis on the analytical content, or 'economic logic', of

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*own purposes* of Isnard, which is quite a different issue than the likely intentions of the latter (cf. Jaffé 1969:22).

<sup>26</sup> A similar view is defended by Gilibert (1981) (1987) (1989). However, on some points Gilibert seems to overstate the coherence of Isnard's contribution. See below ch. 3 n.87 and ch.4 n.47 and 48.

<sup>27</sup> Particularly Turgot's work has frequently been interpreted in this manner (see e.g. Meek 1962:312; Groenewegen 1987b:710). Related to this is the old question whether Smith was actually influenced by Turgot. Considering the fact that the two men met while Smith was in Paris (see esp. Morellet 1821:236-7), and the latter is likely to have known (part of) the *Reflections* this is not impossible. However, Groenewegen (1969) who provides the best discussion of the issue, comes to a largely negative conclusion. He argues that the similarities between the *Reflections* and the *Wealth of Nations* are primarily due to a common heritage of earlier French and British writers. There is little evidence for the reverse possibility suggested by Walsh and Gram (1980) that Turgot was substantially influenced by Smith.

their contributions. As a consequence, the fact remains perhaps underexposed that their economic theories are also inspired by and designed to justify their beliefs in the morality of a private property exchange economy. The support of Le Trosne, Turgot, Morellet and Isnard for *laissez-faire* policies, which at times is more radical than that of Quesnay, is firmly based upon a belief that the unobstructed 'natural course' of competitive forces tends to bring about equitable results.<sup>28</sup> For reasons of space, the moral and juridical arguments employed in support of this conviction will only be examined when they explicitly supplement economic analytical arguments (for example in Turgot's discussions of the 'equal benefit' of both parties to a contract [see sections 2.3.5 and 7.3.5] and the physiocratic theory of wages [see section 6.2.1]).

A conscious effort has been made to resist the temptation to read too much consistency into the economic writings under consideration. Nevertheless, the structure of the following chapters suggests a systematic approach to economic theory. It starts with the discussions of our writers of the most basic concepts of 'value' and 'wealth', which are perhaps the most confusing of all. Then their theories of (surplus) production of wealth, of its circulation and of its distribution among the social classes will be examined (chapters 3 and 4 and 5 to 8 respectively). This structure is intended to assign the various opinions of Le Trosne, Turgot, Morellet and Isnard to their proper places, while allowing for the fact that not all pieces fit perfectly.

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<sup>28</sup> From the mid-1760s the physiocrats increasingly portray their economics as an applied system of natural law (see Weulersse 1910, II: 1 ff). Works in which this effort is especially evident are Mirabeau (1763), Quesnay (1765), Mercier de la Rivière (1767), Dupont (1768), Baudeau (1771) and Le Trosne (1777a). This is another aspect of their doctrine that can not fully be developed here. Generally and with some exceptions, their position is that an absolute respect for private property will promote the largest possible reproduction and will ensure a harmonious and 'natural' reconciliation between the claims of the various social classes to a share in the reproduction. For more detailed discussions see Dubois (1908); Taylor (1929) (1930); Albaum (1955); Samuels (1961) (1962); Steiner (1984) (1987); Larrère (1992).

## **Chapter 2. Value and exchange**

### **2.1. Introduction**

In Quesnay's economic writings individual motivations and choices are rarely discussed in any detail. When considering the phenomenon of exchange one can, according to Quesnay, simply assume that '[...] the price always precedes [individual] purchases and sales'. This aspect of his economics is characterised by Weulersse (1910,II,145) as 'the annulment of the psychological element in the consideration of social value and in the study of the circulation of wealth'. At first sight this seems in marked contrast with the theories of exchange of Turgot, Morellet and Isnard. Each of these writers discusses the case of an isolated act of exchange between two individuals, in which the price, or ratio of exchange, is determined by the amount of the commodity which each contractant hands over to the other.

In this chapter it will be argued that in order to establish in what sense the theories of exchange of Turgot, Morellet and Isnard are compatible or incompatible with physiocratic theory, it is crucial to pay close attention to the specific 'economic setting' of each relevant text. The significance of the 'economic setting' is highlighted by Le Trosne, who contrasts the economy of 'isolated man' outside society with that of 'man in society'. He argues that the proper object of political economy is exchange within a society with an established social division of labour and production for the market. He rejects the idea that economic analysis should start from the hypothetical situation in which two isolated traders confront each other in some primitive setting. The reason why Le Trosne insists on this distinction is that according to him the very content of the most fundamental concepts of economic theory, 'value' and 'wealth', as well as the nature of the economic calculations which agents are making, depend on the type of exchange one is analysing.

Le Trosne's views, which are examined in more detail in the next section, will be considered as the most sophisticated formulation of the physiocratic approach to the concepts of 'value' and 'exchange'. It will prove helpful in the interpretation of the discussions of exchange of Turgot and Morellet (section 3) and Isnard (section 4).

### **2.2. Le Trosne on value and exchange**

The immediate occasion for Le Trosne's discussion of the phenomena of value and exchange in *De l'intérêt social* (1777) is his disagreement with the views on the same issues of his friend Condillac



in *Le commerce et le gouvernement* (1776).<sup>1</sup> Some commentators have noted that the larger significance of the controversy between the two men is that it constitutes an early confrontations between the 'objective' and 'subjective' approaches to the theory of competitive value. These qualifications should be used with some care, first, because both 'objective' and 'subjective' theories come in different varieties, and second, because the term 'objective' can easily be misunderstood.<sup>2</sup> However, it is certainly true that Le Trosne leaves little doubt that his economic ideas are fundamentally at odds with those of Condillac. He notes that '[i]t is impossible that we would not often have contrary opinions, since we start from contrary principles' (Le Trosne 1777b:933).

Indeed, Le Trosne disagrees with Condillac from the very first sentence of the latter's work. Condillac starts his economic analysis with the assumption of a completely isolated settlement

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1 *Le commerce et le gouvernement* was published at the beginning of 1776, probably in February. On February 22, Condillac personally reads parts of *Le commerce* to the *Société d'Agriculture d'Orléans* (see above chapter 1 note 11). The members of the society continue their reading of the work on March 14 and March 21. At first the work is received quite well (see Lebeau 1903:41). However, when Baudeau criticises Condillac's work in the *Nouvelles Ephémérides économiques*, this judgment is reconsidered. 'The society has read the beginning of the criticism of the work of M. the abbé de Condillac by the abbé Baudeau in the *Ephémérides* of the month of April, and awaits the rest of this criticism which is announced for the next *Ephémérides* before giving a founded judgment about it [...]' (Lebeau 1903:42). A fuller and more precise refutation is undertaken by Le Trosne. On February 27, 1777 he commences his reading of *De l'intérêt social* to the society. This continues for several meetings. The notes to the meeting of the 3rd of April state: 'The Society has finished in this meeting the reading of the work of Le Trosne against that of M. the abbé de Condillac. That work in which the principles of the economic science are exposed forcefully and clearly, appears to the Society to dispel very capably the clouds in which M. the abbé de Condillac, the subtle metaphysician, seems to want to cover this science which is so important to the well-being and the stability of political societies' (Lebeau 1903:43). Le Trosne's work is thus seen by the (physiocratic) members of the society as a faithful restatement of the 'true principles' of the doctrine.

2 A strong claim was made by Hector Denis who wrote: 'Put, for example, Stanley Jevons or Macleod in the place of Condillac [and] consider that the principle of value consists in the subjective appreciation of material goods and of services, and single out from the obscure and confused doctrine of Le Trosne the principle that labour is, if not the source, then at least the measure of value, and put in the place of that physiocrat Karl Marx and Proudhon, and one will have an idea of the scientific and social conflicts which prepared the dispute of the school of the 19th century' (H. Denis *Histoire des systèmes économiques et socialistes* (1904: 130-1); quoted by Mille 1905, xv.). This classification is misleading in the sense that neither Condillac's subjective analysis is identical to that of Jevons or Macleod, nor can the labour theory of value be found in Le Trosne's work. However, the general sense in which this passage is not entirely farfetched is that the controversy between Le Trosne and Condillac can indeed be seen as clear early instance of a '[...] dichotomy in approaches to economic thinking, which commenced with the beginnings of the subject, [and] persists until today' (Groenewegen 1989:147). The fundamental notion in Condillac's theory to which he attempts to relate all economic phenomena is that of the subjective valuation of goods by individuals. The central notion of Le Trosne's (and physiocratic) theory is that of reproduction and the circular flow. Indeed, Jevons and Macleod did praise Condillac's approach. The former calls his work 'original and profound' (Jevons, 1894, 'Condillac' in *Palgrave Dictionary of Political Economy*. Vol.1:385). The latter states 'Condillac's is a very remarkable work and deserves attention [...] in scientific spirit [*Le commerce*] is infinitely superior to Smith. The whirligig of time is now bringing about its revenges for all the best European and American economists are now gravitating to the opinion that Condillac's is the true conception of economics' (H.D. Macleod, 1896, *The History of Economics* 69 ff; quoted in Lebeau 1903:46-7). In contrast, Marx clearly favours Le Trosne's approach (see below esp. n.14).

without exchange, producing exclusively for the satisfaction of its own needs.<sup>3</sup> The goods produced by such a settlement in excess of the own consumption have an accidental character, resulting from mismatches between the actual subsistence requirements and the success of the harvest.<sup>4</sup> To their original owners, these accidental quantities of goods available for exchange, are useless surpluses (*surabondant inutile*) (Condillac 1776:243).

According to Condillac, once society properly speaking is established, and *l'homme en société* is considered, the notion of superfluous products entering into the exchanges between individuals can still be maintained. It is this assumption which underpins what is perhaps the main argument of his work, namely that

[i]t is wrong that in exchange one gives value for equal value. On the contrary, each of the contractants always gives a lesser for a greater [value] (Condillac 1776:255).

Le Trosne's disagreement with this perception of exchange is not so much that he refuses to acknowledge that contractants only exchange if they both believe to benefit from it (see below p.30-31). It is Condillac's account of the origin of exchange which is the principal object of his criticism. He notes that

[Condillac's] doctrine of value revolves around the principle "that only surpluses [*surabondants*] enter into trade and are the material of exchanges; that since the surplus of a man does not have any value to him, that is utility, he strikes an advantageous bargain by disposing of it, [by] giving less for more" (Le Trosne 1777b:905).

In response Le Trosne argues that while the view that goods entering into exchanges have no value to their original owners may be relevant to primitive forms of exchange, this point of view 'can lead to mistakes about the nature of trade' (1777b:907), when one turns to the analysis of exchange within

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3 The first sentence of *Le commerce et le gouvernement* reads: 'Let us assume a small settlement (*peuplade*), which has just been established, which has just had its first harvest, and which, being isolated, can only subsist from the produce of the fields that it cultivates' (Condillac 1776:243).

4 Condillac argues that production decisions are principally ruled by subjective considerations. What man produces 'should not only be sufficient to his needs, but also to his fears' (1776:244). He generally emphasises uncertainties in economic life and the difficulties for individuals to foresee future events. Hutchison connects rather far-reaching conclusions to this characteristic of his work. This commentator argues that in Condillac's economic theory '[...] both individual and government behaviour [are] based not on the assumption of certainty and full knowledge, as maintained by the physiocrats and so many later economists (notably Ricardo), but on an assumption of widespread ignorance and uncertainty, on the part of both individuals and governments. Condillac may, therefore, be said to have provided, on the one hand with his subjectivist approach, and, on the other, with his fallibilist methodology, a much more valid and realistic foundation for libertarian economic policies than did the physiocrats, or, it might be argued than any other writer of his time, or for quite a long period after, either in France or elsewhere' (Hutchison 1988:331). It has to be noted that Condillac does not see his *methodology* as fallible at all. In the posthumous edition of *Le commerce*, he writes about his highly deductive method: '[...] one will only conduct economic science properly to the extent that one will adopt my language, and that one corrects it following my method, which is the only one'. On Condillac's economic methodology see Meyer (1944:24-34, 244-52); Knight (1968: 233-5, 260); Klein (1985) and Coleman (1995: 96-108).

an established society.

Perhaps one could admit this [Condillac's] way of looking and judging in a newly founded society composed of two or three families, who can regard a surplus [*surabondant*] of their produce as unuseful, and exchange it believing they gain much by disposing of it. Also, as I said in the beginning, there is nothing to consider for isolated man [*l'homme isolé*] than the useful property of things [but] those families will not long remain in this first state of simplicity. But in an established society [*société formée*], where there is a great competition between sellers and buyers, all merchandises obtain a value which is without a doubt subject to some variation, but which is constant enough to have them given and received as complete equivalents, without consideration to necessity and superabundance (1777b:907).

Le Trosne thus argues that it is incorrect to assume that the analysis of primitive forms of exchange is applicable to exchange within an 'established society'.<sup>5</sup> The reason why this is not allowed is

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<sup>5</sup> It can be argued that this point reflects a fundamental methodological difference between Condillac and Le Trosne. This is suggested by some reflections of Le Trosne in *De l'ordre social*. In a long footnote in the first discourse of that work Le Trosne explicitly rejects the view that the case of the isolated individual should be the starting-point of social theory. Le Trosne asserts: 'The state of nature which so many philosophers continuously oppose to the social state [*l'état social*], is a pure imagination and an absolutely gratuitous supposition, which can neither shed light upon, nor lead to knowledge of man, since it puts in place of man as God has made him, an artificial and ideal being [...] We do not need to examine how man leaves the natural state by raising himself to the social state, since he is born within society, to which he is accustomed since childhood, and of which his love of wellbeing and his desire for preservation make him feel every moment the advantages and necessity' (1777a:14 n.). Human beings should be considered as by nature social animals. Among the propensities which constitute man's social nature Le Trosne counts his '[...] daily need for subsistence, the difficulty of satisfying this need in solitude, and the facility of doing so in the social state [...]' (besides '[...] his social affections, the gift of speech, which allows him to transmit and communicate his ideas, his intellectual faculties which he can only develop in the social state, his two great motives [*mobiles*], the appetite for pleasure and the aversion of pain [...]') (*ibid.*). (Mille [1905:15] points out that Le Trosne already read this discourse to the *Académie royale de Belles-Lettres* of Caen in May 1770. The fact that the above reflections appear in a footnote may indicate that they were added later, once Le Trosne realised their significance for his disagreement with Condillac). Le Trosne's distinction between the 'natural state' and the 'social state' is reminiscent of Pufendorf. Mainly in response to Hobbes, Pufendorf interposes between the state of nature and civil society, a natural social state of man (Hont 1987:260). Hobbes' state of nature pictured men as beings which are incapable of mutual assistance in the satisfaction of their needs. According to Pufendorf, this is a pure fiction which allows one to consider human conduct as physical motions like those of any species of animal (Haakonssen 1985:56; Hont 1987:263). However, man's physical constitution is such that he can only survive by co-operation with other men, and therefore the natural condition of man should be seen as a social one (Hont 1987:260). The view that man cannot do without his fellow beings to satisfy his needs, *chreia*, and that this is the principle which leads not to the civil state, but to society, *koinonia*, derived from Aristotle (*ibid.* 265)). Pufendorf's notion of *socialitas* is primarily intended to counter Hobbes' vision that conflict is the natural relation of people, and that right and wrong only have a positive meaning, i.e., that outside or before the civil state no natural justice exists. (*Inter alia*, *socialitas* is also founded on the notion of self-preservation, but not exclusively. According to Pufendorf, the adherence to social rules are a matter of moral obligation, or of choice to behave in such a way as God wills us to; cf. Haakonssen 1985:56-7; Tuck 1987:106). This theory has a significant influence on the physiocrats. For the influence of the theory of sociability in the French Enlightenment generally, see Larrère (1992), chapters 1 and 2. In the first place, it informs their theory of property in a general way. If the origin of property rights can be located in a peaceful state prior to the establishment of civil authority, then the violation of these rights can be explained as contravening *natural* obligations to respect 'mine and dine'. Second, and of direct relevance to the present context, Le Trosne appears to draw economic-analytical consequences from Pufendorf's model. In fact, the importance of neighbours as exchange partners and consumers of excess produce is already noted by Pufendorf, who observes that without 'takers' excess production has to come to an end since it '[...] would turn to no use or Account, unless they

suggested when he contrasts the 'mode of production' of 'isolated man' [*l'homme isolé*] with that of 'man in society' [*dans l'état social*]. He writes:

The isolated man who, unrelated to his likes, lived from his own harvest, did *only* assess in products his *personal utility*: he regulated the area of his cultivation by his consumption, and did not work to raise a surplus which would be useless to him. [...] But when as few as two families settle near each other, a natural association of works and services is formed between them, and *exchange arises* to satisfy all the needs, to spread pleasures, and *to let everyone find, in the surplus [excédent] of one type, the means of acquiring that which one lacks of another*' (1777b:888-9; emphases added).

Here Le Trosne argues that there is an essential difference between what guides production of man without and within established society. The former produces himself all the different goods which he finds useful in quantities which do not exceed his personal consumption. He produces things in order to consume them, and therefore 'only assesses in products his personal utility'. In contrast, the latter purposefully produces quantities of one (or few) kind(s) of good(s) in excess of his own consumption, in order to obtain in the market the rest of the goods he needs, and which are produced by others, in excess of their own consumption.

It can be argued that this distinction between isolated man and man in society is made generally, although less clearly, in earlier physiocratic writings. Especially the idea that to isolated man products are only goods [*biens*], *i.e.*, objects whose physical properties make them suitable to satisfy some need, is found frequently.<sup>6</sup> In contrast, once exchange establishes itself between people in society goods obtain an additional, analytically distinct, property: they become exchangeable. Le Trosne expresses this idea by arguing:

Products acquire [...] a new quality in the social state [*l'état social*], which arises from the communication among people: this quality is [exchange] *value*, which makes that products become *wealth* [...] (1777b:889).

It is important to note that 'value', or 'exchangeability', is an additional quality. The term 'wealth'

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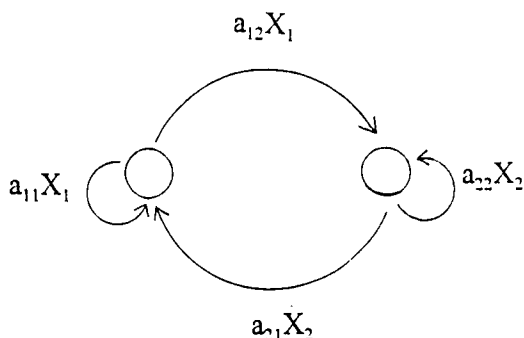
were thus bestow'd and dispensed' (Pufendorf 2.3.14; quoted by Hont 1987:271). Cf. Le Trosne: '[...] without exchange [*communication*] society becomes useless; and if agriculture could exist, it would limit itself to the consumption of each family; because why would they labour to produce a surplus [*excédent*] which would not be of any use to them' (1777a:33). Le Trosne can therefore be said to quite consciously object to the 'Robinsonade' approach to economic theory, a stance that may be called typical for physiocratic economics. The same holds true for Isnard (see below note 100). However, Turgot and Morellet are more difficult cases (see below, section 2.3.4.1).

6 See e.g. Quesnay (1767a:257): 'A distinction should be made in a state between goods which have use value but which have no market value. For example, the savages of Louisiana used to enjoy many goods, such as water, wood, game, and fruits which did not constitute wealth because they had no market value. But after a number of branches of trade were opened up between them and the French, the English, the Spaniards, etc., a part of these goods has acquired market value and has become wealth'. Baudeau (1767, vol.v.,132): 'For the isolated mortal the rest [*i.e.*, the excess produce] being useless to his own enjoyment, would not have any price or value'. Dupont: 'For isolated individuals there are only goods [*biens*]; those goods only acquire value and only become wealth through exchange' (cited in Schelle 1888:36).

(*richesses*) expresses that objects are both useful and saleable.<sup>7</sup>

The point about the distinction between 'goods' and 'wealth' is that according to the physiocrats in the social state things are no longer primarily produced for own consumption (as goods), but in order to be sold in the market (as wealth).<sup>8</sup> The reason is that when people live in society they establish among them, as Le Trosne calls it a 'natural association of works and services' [*une association naturelle de travaux et de services*], or in other words a social division of labour.<sup>9</sup> It can be argued that the establishment of regular exchange and a social division of labour changes the whole phenomenon of exchange.

For clarity, Le Trosne's view that 'exchange arises [...] to let everyone find, in the surplus [*excédent*] of one type, the means of acquiring that which one lacks of another', can be put in the following simple picture:



(where  $a_{12}$  ( $a_{21}$ ) are physical units of the commodity of type  $X_1$  ( $X_2$ ) produced by family 1(2) in excess of its own consumption,  $a_{11}$  ( $a_{22}$ ).)

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7 Cf. Baudeau (1771:661): '[t]he title of *wealth* supposes [...] two things: first, useful qualities, which make the objects useful and agreeable to our enjoyments and which make them *goods*; second, the possibility to exchange them, which makes that those goods can procure others, which makes them *wealth*'. Mirabeau (1763, I:142): 'Without Trade products would just be goods, and not wealth'.

8 De Brancas (1768:2), when criticising the physiocratic distinction between *biens* and *richesses*, makes an interesting comment. He writes: 'This doctrine of the *Economistes* does it say anything if not that they give to the different functions of which goods [*biens*] are susceptible, different names: if you consume that what you could sell, you have absorbed an [item of] wealth [*une richesse*]; if you enjoy the same thing without being able to exchange it, you only consume your good [*bien*]'. De Brancas unwittingly emphasises the significance of the distinction. The two terms do indeed express different *functions* of the same physical object. What de Brancas fails to see is that the formal distinction reflects the function of the object in the economic system as a whole. Since a market economy is different from a society consisting of self-sufficient producers, the objects produced and consumed in either society need to be formally distinguished. A *bien* is a product considered as an object suitable for consumption; a *richesse* is an object produced to be exchanged, (and eventually to be consumed by the buyer). The position of the physiocrats vis-à-vis de Brancas is reminiscent of Marx's response to Samuel Bailey: 'Because the product is not produced as an immediate object of consumption for the producers, but only as a *bearer of value*, [...], all products as *values* are compelled to assume a form of existence distinct from their existence as use-values' (Marx TSV III:144-5).

9 The mutual dependence of people in society is already highlighted by Quesnay in 'Corn' (1757a:83) when he writes: 'No man who lives in society provides for all his needs with his own labour; he obtains what he lacks through the sale of the produce of his labour. Thus everything becomes exchangeable, everything becomes wealth through the medium of mutual trade between men'. See Meek (1962:371-2) for a discussion of the importance of the social division of labour in physiocracy.

The great simplicity of this picture shows itself in the fact that it abstracts from such elementary physiocratic issues as the existence of a landowning class, the question whether or not a 'net product' is produced, and the primacy of agriculture over industry. However, importantly it already expresses the essence of the most fundamental of all physiocratic notions, *i.e.*, the circular flow of commodities.<sup>10</sup> A few points can be illustrated by means of this picture. First, the exchange of  $a_{12}X_1$  for  $a_{21}X_2$  is *not* governed by a process of deliberation about the 'attachment' which each family feels for the own excess product, relative to the 'desire' for the excess product of the other family. This is so because each family already has 'enough' of the own good ( $a_{11}X_1$  and  $a_{22}X_2$  respectively), and considers the own excess product strictly as 'the means of acquiring' some of the goods of the other family.

Exchange within a society where the quantities traded are produced purposefully *to be exchanged*, has two sides to it. These two sides may be called the perspective of the buyer, and the perspective of the seller on the commodities traded. As Quesnay states:

[...] corn, considered as a commodity, represents monetary wealth for the sellers and real wealth for the buyers. Thus saleable produce ought always to be regarded [...] equally as monetary wealth and as real wealth, which subjects may make use of as it suits them (1757a:77).<sup>11</sup>

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10 Cf. Gilibert (1987). It is important to note that the above picture does *not* portray a case of isolated exchange in which both parties have an initial fixed supply of goods. It is a simplified representation of the circular flow of reproducible goods within a society. The difference between the two is crucial for the interpretation of the theories of exchange of Turgot, Morellet, and Isnard. In 'Value and Money' Turgot analyses an exchange of the first type when he considers the deliberations between two savages on a desert island (see section 2.3.4 below). In contrast, it will be argued that Isnard analyses the second type of exchange (see section 2.4 below). The difference between the two models of exchange is not simply one of scale. Even though Le Trosne uses a 'large numbers' argument when he argues that the social state is one of *pleine concurrence* (see below p.24), this does not mean that his model of the market economy is identical to that of the 'infinity of infinitesimally small agents' of the neoclassical model of perfect competition (see Eatwell 1982:217). The picture in the main text does not constitute the 'microeconomic level' of a more aggregated economic model. Instead it depicts the economy-as-a-whole-but-simplified. A question like, 'but what if sector 1 has a particular preference for its own good and does not want to put the whole of  $a_{12}X_1$  up for sale?' is not to the point. This is because  $a_{12}X_1$  is *defined* as 'the quantity of commodity 1 which is put up for sale in order to obtain  $a_{21}X_2$ '.

11 Quesnay makes this remark in the context of the foreign trade in corn, but it can be argued that it is generally applicable to the treatment of exchange in physiocratic theory. The view that saleable produce is equivalent to 'monetary wealth' to the seller, and is 'real wealth' to the buyer expresses the idea that the former does not consider it as 'consumables', or 'use values', but as 'means to buy other use values' and that for the latter this is precisely the other way around. It also suggests that only when money is used in exchange this distinction is really tangible. For a discussion of the conceptual point that only the introduction of money establishes the distinction between sale and purchase, and the roles of seller and buyer see section 4.4 below.

When one abstracts from the existence of money and considers exchange *in natura* the conceptual difficulty is that traders are buyers and sellers at the same time. In their capacity of buyers, traders are interested in the 'use value' of the excess produce of others, while in their capacity of sellers they are interested in the 'exchange value' of their own excess produce. This way of looking at exchange at first may appear a little cryptic, but it is implied by the physiocratic position that things which are 'wealth' are use values (*biens*) and exchange values (*marchandises*) at the same time.<sup>12</sup> Both perspectives can be examined in turn.

The point that sellers do not consider the goods which they produce in excess of their own consumption as useless surpluses (*surabondants inutiles* as Condillac calls it) is made rather well by Le Trosne.<sup>13</sup> He notes that it is preferable to call marketed quantities 'excess produce' [*excédents*], or 'tradeables' [*commerçables*], instead of 'superabundant' [*surabondant*], or 'superfluous' [*superflu*].<sup>14</sup> This is because each trader considers what he produces in excess of his own production

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12 Thus in the above picture  $a_{12}X_1$  is considered as 'merchandise' by family 1 and as 'goods' by family 2, and  $a_{21}X_2$  as 'goods' by family 1 and as 'merchandise' by family 2.

13 In chapter 4 a further distinction between two kinds of sellers will be discussed. The physiocrats distinguish between the 'first seller' [*premier vendeur*], or the agricultural producer, and the 'reseller' [*revendeur*], or merchant. The latter agent 'buys in order to resell'. The merchant merely 'studies the differences in price' between different places and periods. That is to say, in his arbitrage activities he is only guided by exchange value (or price). Interestingly, Condillac gives a very similar account of the role of merchants as the physiocrats in part I chapter v of *Le commerce*. He admits that the activities of merchants form an exception to his theory of value. 'When producers [*colons*] trade with one another immediately, they exchange their own superabundance [*surabondant*]. But when merchants trade, is it also their superabundance which they exchange? And can one say that the merchandises which they keep in their warehouses are superabundant to them? Certainly not: the merchants exchange the superabundance of the producers [...]' (1776:253-4). It is probably in response to this view that Le Trosne remarks that farmers consider their excess produce no more as 'superabundance' than merchants their merchandise (see below in text).

14 Le Trosne (1777b:907-8). Le Trosne already develops this precise nomenclature in 1766, when he argues that it is incorrect to call marketed surpluses 'superfluous' [*superflu*], since that would presume the 'exchange of the superfluous against the necessary'. Instead the surplus should be understood to consist of 'tradables' [*commerçables*], which notion, according to Le Trosne, implies the exchange of equal values. (Le Trosne 1768a:91 note c.; De Brancas (1768:3) is probably responding to this opinion when he rejects the 'futile, bizarre, and false distinction [...] between the *necessary* and the *superfluous*'). It has to be noted that the conscious use of Le Trosne of the term *excédent*, as opposed to *surabondant* or *superflu* is quite rare among economic writers at the time. For example, Adam Smith (1776,I,iv), while presenting a superior discussion of the social division of labour, uses the more ambiguous term 'superfluity' to denote the quantities of goods entering into exchange. Similarly, Stuart (1767:40): 'We may lay it down as a principle, that a farmer will not labour to produce a *superfluity* of grain relatively to his own consumption, unless he finds some want which may be supplied by means of that *superfluity*'. Hume uses the term 'overplus' in a similar manner (cf. note 17 below). The use of ambiguous terms like 'superfluity' or 'overplus' does of course not mean that they are not describing exchange of quantities of commodities which have purposefully been produced for the market. The same is true, as will be seen, for Turgot (in the *Reflections*) and Isnard, who both use (what must be considered as the imprecise term) '*superflu*'. Le Trosne's greater clarity in terminology may be put down to the fact that it is directly formulated in response to subjective theories of value. Theoretical controversy sharpens terminology. Interestingly, Marx notes the difference between the terms 'superabundance' and 'excess produce'. He writes: '[...] Condillac not only confuses use-value with exchange-value, but in a really childish manner assumes, that in a society, in which the production of commodities is well developed, each producer produces his means of subsistence, and throws into circulation only the excess over his own requirements' (Marx, 1867,

[*excédent*], as *means of acquiring* some of the other traders' excess produces (*i.e.*, he sees it not as use values but as exchangeable values). What he offers to the market is thus only valuable to him in the sense that upon sale it allows him to acquire other merchandises, which he needs for reproduction or consumption.

That supposed superabundance is [...] very necessary; it is destined for exchange, which is the means of communication between men; for the payment of all salaries and all services. The entrepreneur of cultivation does have no more a superabundance than the watchmaker has a superabundance of watches, and than the merchant who buys products to resell them (1777b:908).<sup>15</sup>

The perception of producers purposefully producing for the market has at least four important consequences for Le Trosne's understanding of the concept of value.

In the first place, it gives rise to a particular understanding of the *realisation* of value or 'current prices'.<sup>16</sup> Le Trosne suggests, somewhat mysteriously, that the 'ulterior cause of [exchange] value' are 'the products themselves' (1777b:895). By this he means that one should imagine that the value of products is realised through a process in which the excess produces of all kinds '[...] enter into the balance of exchanges, and give each other counterweight' (*ibid.*). Le Trosne gives the following impression of the mechanism of prices:

It has to be observed in general that [because] value consists in the relation of exchange, only the total of exchanged products, or which are destined to be exchanged, influence value. The part that is consumed by the producers does not contribute, because it does not enter into trade. But all those who consume products of others, can only obtain them by giving the equivalent, and the two things which the contractants put in the balance respectively, acquire an exchange value (1777b:889-90).<sup>17</sup>

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I, 157). The end of the last sentence reads in the original: '[...] und nur den Überschuß über den eigen Bedarf, den Überfluß, in die Zirkulation wirft'. In the English translation a linguistic subtlety is lost. Marx specifies that in Condillac 'surplus/excess' (*Überschuß*) denotes 'superabundance' (*Überfluß*). He then remarks that 'Le Trosne, therefore, answers his friend Condillac with justice as follows: *'Dans une ... société formée il n'y a pas de surabondant en aucun genre'*. ( [...] *'In der entwickelten Gesellschaft gibt es überhaupt nichts Überflüssiges'*).

15 The fact that Le Trosne argues that like farmers, watchmakers and merchants produce or trade in *excédents*, shows decisively that Le Trosne does not denote with this term *produit net*. 'Net product' stands for 'production above reproductive requirements', while *excédent* stands for 'production above own consumption'. To appreciate the difference assume an economy which just reproduces itself, with two sectors, each using some of its own product and some of the products of the other sector as inputs. In this situation there is no 'net product', but there are *excédents* (which are just large enough to supply the reproductive requirements of the other sector). The issue of the 'origin of the net product' is taken up in chapter 3.

16 In physiocratic theory no distinction is made between 'value' and 'price'. Of course, they distinguish between 'use value' and 'exchange value'. But they do not distinguish between a (hypothetical) 'determinant' or 'substance' which expresses the 'normal' or 'average' market price of commodities and the market price itself. Prior to exchange products only "exist" as useful physical things (*biens*). Cf. note 115 below.

17 Cf. Hume (1752:317): 'Were we at any time, to form conjectures concerning the price of provisions, the corn, which the farmer must reserve for seed and for the maintenance of himself and family, ought never to enter into the estimation. It is only the overplus, compared to the demand that determines the value'. The similarity between Hume's opinion and that of Le Trosne on this particular point may come as a surprise (given the former's stated antipathy to the physiocrats). Note, however, that here the question of the origin of the surplus is not at stake.



It has to be pointed out that the idea of the realisation of relative prices through the 'balancing out' of marketed quantities against one another, is not found in so many words in the works of Quesnay or the other physiocrats. Significantly, however, it appears to be very similar to the price mechanism as presented by Isnard four years later (see below section 2.4).

Second, Le Trosne imagines that the process of 'balancing' of marketed quantities establishes a uniform, that is economy wide, relative price for each commodity. This view is related to the physiocratic principle of 'equality in exchange'. According to Le Trosne's definition:

Exchange is by its nature a contract by which value is given for equal value. It is thus not a means to enrich one self, since one gives as much as one receives; but it is a means to satisfy one's needs and to vary one's enjoyments (Le Trosne 1777b:903-4).<sup>18</sup>

This definition is immediately qualified by the remark that '[...] such is the nature of exchange when it takes place in a state of full competition [*un état de pleine concurrence*]' (1777b:904). Under conditions of 'full competition',

[...] a general estimation or judgment [*estimation ou jugement général*] is made, independent from the particular judgments, and to which all the contractants are forced to submit themselves, without which they will not contract [...] It are thus not the contractants who decide about value; it is decided before the agreement. The price is expressed beforehand by competition, which adopts and expresses the general judgment (1777b:906-7).<sup>19</sup>

Le Trosne thus explains that the opinion that in exchange typically equal values change hands, simply means that it is the tendency of the phenomenon of 'full competition' between all buyers and sellers of merchandises in a society to establish uniform market prices. This is a useful clarification because, while the principle of 'equal exchange' is stated in many places in the physiocratic literature, it is not often explained, something which obscures its meaning.<sup>20</sup>

According to Le Trosne, exchange is 'not a means to enrich oneself', in the sense that when uniform prices are assumed then, on each occasion, when a given physical quantity of one good is exchanged for another, the latter quantity can purchase no more of a third good than what could have been obtained directly by exchanging it for the first quantity.<sup>21</sup> The phrase 'exchange is not a means

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18 Marx cites this definition (1867,I, 156, n.5).

19 The penultimate sentence is cited by Marx (1867, I, 156 n.2).

20 Quesnay sometimes seems to be quite happy not to explain positions in which he knows himself to be superior. See Quesnay (1766c:214): 'You will accuse me once again of replying only with general maxims if I repeat to you that trade is only exchange of value for equal value, and that so far as these values are concerned there is neither loss nor gain between the contracting parties'.

21 This point is important with respect to the opinion that the surplus does not originate in the 'sphere of circulation', but in the 'sphere of production'. It should also be noted that even Condillac is of the opinion that in a free exchange economy objective and uniform 'true price' [*vrai prix*] will be established for each good, which is the expression of the 'general estimation' of its value. (See Condillac 1776:289-94). Hutchison (1988:327), seeing Condillac as a precursor to Austrian economics, argues that the latter's idea of a 'true price' was 'surely a term or concept which represented a slight lapse from strict subjectivism'. If that is so, it was a

to enrich oneself' does certainly not mean that in physiocratic theory individual traders are not supposed to be self-interested.<sup>22</sup> The assumption of economy-wide uniform prices for each commodity is of course a rather bold one which abstracts from arbitrage possibilities. However, it does not mean that Le Trosne, or the physiocrats generally, neglect the fact that merchants derive an income precisely from the temporal and spacial non-uniformity of prices. Indeed, Le Trosne is convinced that in a large liberalised market economy the combined arbitrage activities of all traders tend to *bring about* uniform prices. (See section 4.2).

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rather long lapse, considering the number of pages Condillac devotes to the idea. Another critic of the physiocrats, De Brancas also accepts the notion of equality in exchange, in terms of exchange values. He specifies that only 'in society' one can believe to have contracted *sans perdre ni gagner*. This situation can only be established by '[...] the complete freedom of trade, and its largest reach. Which are the only means to give to goods their real price [*prix réel*] and a constant value, without which people will always depend on particular circumstances' (De Brancas 1768:9).

22 The opposite is argued by Steiner (1987:1114-5): 'In Quesnay the problem posed by the market and by prices is not one of *a posteriori* coordination of individual and autonomous economic interests. Quesnay and the physiocrats presuppose, in a general way, a harmonious functioning of the social corps, that is to say, the latter is not founded upon the antagonism of interests as in the tradition which runs from Mandeville to Smith via Boisguillebert'. This is a questionable position. Admittedly, it is quite true that in Quesnay a '[...] restricted role [is] ascribed to individual motivations and choices' (Vaggi 1995:74). At the same time several physiocrats clearly state that their economic theory is founded upon the 'antagonism of interests' of individuals. See e.g. Mercier de la Rivière (1767:556): '[...] cupidity which divides the seller and the buyer in their objectives [*projets*] is precisely that what brings them together and conciliates them in practice: it is this cupidity, that desire to enjoy [*jouir*] which becomes the soul of competition, and enables it [*i.e.*, competition] to despotically impose the law both upon the sellers and the buyers'. Cf. *ibid.* 554. Le Trosne (1777b:898) is also unequivocal: '[...] the whole of political economy is completely ruled by personal interest'. The very fact that the physiocrats presume people to be egoistic is criticised by Mably (1768:40) who, referring to Mercier de la Rivière's work notes: 'Instead of the essential order of nature, I am afraid that we are presented with the natural order of avarice, of greed, and of foolishness'. Against such criticism Le Trosne retorts that philosophers who assume anything else than that man is egoistic '[...] let themselves bedazzle by a false idea of perfection and disinterestedness. They have recognised that [self]interest is the principal cause of discord. They have concluded from this that if one could strip man of his passion, which so often brings him in conflict with his likes, one would make the source of discord dry up. But denying man this passion is denaturing him, is reducing him to a purely passive and inactive being' (Le Trosne 1777a:35 n.7). Instead of arguing that individuals are not self-interested in physiocratic economics, it can perhaps better be said that this self-interested behaviour is pictured in a rather placid manner. This is partly because their economic theory is to a large extent set within the analytical and moral ideal of the 'social state' [*l'état social*], or the 'natural' condition of man in society. Especially the younger physiocrats are utterly starry-eyed about the interaction between individuals under these conditions. Baudeau gives the following definition of the social state: '[...] the happy state of *true society*, that is unity of view, the peaceful and tacit agreement [*concours*] of all interests and labours towards one and the same goal, the continuous and progressive *multiplication* of the total annual reproduction'. Le Trosne (1777a:13) describes the social state as '[...] a state of peace, of concord and kindness, a state where justice must preside sovereignly'. One aspect of this state, according to the physiocrats, is that it is un *état de pleine concurrence*. Le Trosne specifies that '[c]ompetition reconciles all interests: it is only perfect when under the absolute rule of the freedom of exchanges, which is the first consequence of the right of property, and consequently one of the most essential laws of the social order' (1777b:955). Cf. Mercier de la Rivière (1767:487): 'It is thus that competition, reigning peacefully in the bosom of liberty, regulates without violence, but despotically, the rights of those two classes of men [*i.e.*, farmers and artisans]'. Thus competition is seen as a force which harnesses self-interested behaviour. They go so far in the application of this idea as to presume that individual traders do not have any power over the terms of exchange in any single contract. Of course this drastically limits the scope for 'higgling and bargaining', but it does not mean that agents are not self-interested.

Third, the idea that in 'state of full competition' individual traders do not have any power over the given current prices does not mean that value is somehow understood by the physiocrats as an 'intrinsic property' of commodities. This is suggested by Condillac who argues that the physiocrats

[...] regard value as an absolute quality, which is inherent to things, independently from judgments which we hold [this is wrong because] the value [of things] consists principally in the judgement that we hold of their utility (1776:247).<sup>23</sup>

To this Le Trosne retorts that value is to be considered as a strictly relative property: it simply is a physical ratio of exchange between two kinds of merchandises. He gives the following '[d]efinition of value':

Value exists in the connection of exchange which finds place between this and that thing, between this measure of one product and that measure of another (1777b:889).<sup>24</sup>

There can be very little doubt that Le Trosne does *not* consider exchange value as an 'inherent' property. He could hardly have been more explicit on this point:

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23 By conflating the idea of value as an intrinsic property and as a property which is independent from the judgment of any individual trader, Condillac introduces a particularly nasty confusion into economic debates. Before Condillac, the idea that value is an 'intrinsic' property, sometimes appears in economic texts (most notably in Cantillon who is cited by Condillac (1776:309) in a different context). However, Condillac is perhaps the first writer to use the qualification 'inherent' in a pejorative manner in a specifically theoretical economic context. It is important to note that Condillac's criticism is misdirected. One is hardpressed to find a single passage in the physiocratic literature in which the physiocrats argue that value is an inherent quality of things. Indeed, in one place, besides calling it a 'relative' quality, Le Trosne also calls value an 'accidental' one: 'Products [...] receive from nature the *physical quality* to be proper to our needs; and it is exchange which attributes value to them, a *relative and accidental* quality' (1777b:896; emphasis added). Thus the fact that Morellet (see his deceptively titled notebook ms. 2525 A) and Turgot (Schelle 1913-23, III, 176) reject the idea that exchange value is an 'intrinsic' property, does *not* mean that in that respect their position differs from the physiocratic one. The same is true for Isnard. It is somewhat misleading to say that Isnard '*discovered* early on the truth that value is not an intrinsic thing but rather is a magnitude which necessarily varies in relation to other goods, whose worth is also interdependent' (Hébert 1987:1004). Instead Isnard conforms to the physiocratic position. In the larger context of the history of economics it should be noted that, despite very persistent suspicions, and despite their adherence to various kinds of labour theories of value which fuelled these suspicions (a kind of approach which is completely absent from physiocratic economics), the major classical economists Smith, Ricardo and also Marx did *not* make the simple philosophical mistake to see exchange value as an 'intrinsic' property of objects, like, say, their density, colour, or taste. See Ciccone (1992). It should not be necessary to devote such a long footnote to this basic point. Unfortunately, however, even well-informed commentators seem to be confused on the issue. A case in point is Faccarello (1992:271), who perpetuates the confusion by arguing that Turgot's theory of value is essentially different from the classical perception in general: '[Turgot's] fundamental value is not a natural price [in the classical sense], at least if one ascribes to the latter, as is usually done, the implicit meaning of an 'intrinsic' magnitude'. A similar thing must unfortunately be said of Grenier's distinction between 'classical and pre-classical theories of value (Grenier 1996, part I, ch.I).

24 This sentence is quoted by Marx (1867,I,44).

It is certain that value is not an absolute, inherent quality of things, even though one can say that the value [of commodities] derives from the property of being exchangeable, and that this property belongs to things, since it is the consequence of their useful qualities; but if it is not properly an absolute quality, it is even less an absolutely arbitrary quality, which only exists by virtue of personal judgement of the contractants, [...](1777b:911).

Finally and most substantially, if exchanges values are nothing but an single set of exchange ratios between different types of commodities, what determines the normal ratios, or prices of products? Le Trosne is not very clear on this point. He acknowledges that many different factors can affect market prices.<sup>25</sup> However, eventually the market prices of goods are related to their costs of production. This is a consequence of the notion that in an established society producers compare the sales value of their excess produce [*excédent*] to the costs incurred in the production of it. Le Trosne states:

The producer who has grown a surplus [*excédent*] above his own consumption knows very well that he has commitments to fulfil; that he has to find in the exchange of that surplus the returns to his advances and the payment of revenue [...] (1777:907).<sup>26</sup>

In other words, the relevant comparison for producers to make is that between the 'current price' and the 'fundamental price' [*prix fondamental*], or 'necessary price' [*prix nécessaire*] of their products. Here Le Trosne is in full agreement with the general physiocratic position. The comparison between market value and costs of production is relevant to all economic activities.

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25 In the sections v. to x. of chapter 1 of *De l'intérêt social* he discusses five 'causes' of value. The first is 'utility' (sections v. and vi.) of which it is explained that it is merely a precondition of value. The second is the 'indispensable costs' of production (section vii). The third is 'rarity or abundance' (section viii). This factor is said to rule the prices of 'goods of luxury, curiosity, and pure phantasy' generally (*ibid.*894). The prices of other goods are only temporarily affected by this factor. The fourth 'cause' is 'competition' (section ix) which is said to 'fix the law of prices according to the causes above' (*ibid.*895). Finally, 'products are themselves the ulterior cause of value'. The latter idea relates to the idea of market prices as being realised by the balancing out of quantities of marketed goods against each other (see above p.23).

26 In this context a remark by the anonymous reviewer of Graslin's *Essai analytique* in the *Ephémérides* (1768, vol. 10, 192) is interesting. Against Graslin, the author argues that scarcity is not a general determinant of value. Local scarcities and price variations are reduced by trade: '[...] the shortage of one place is compensated by the abundance of another, by filling the void of the first with the superfluous [*superflu*] of the second: thus the highest price can only exceed the average price [*prix moyen*] by the costs of transport and the profits of the resale'. Then the use of the term *superflu* is qualified in a footnote: 'One should not confuse the normal excess product [*l'excédent de la reproduction ordinaire*] with the superfluous of abundance [*le superflu de l'abondance*]; the first is a constant means of exchange to obtain that which one needs [...] with respect to the second, it should not be included in the measure of exchanges'. Here the *prix moyen* of products is associated with *l'excédent de la reproduction ordinaire*. Scarcity or superabundance are only factors which raise or reduce market price above or below their normal level. This is in accordance with what Quesnay writes in *Hommes* (INED II:530). Still, as was pointed out in note 14 above, the emphasis on the distinction between *excédent* and *superflu* is quite specific to Le Trosne. It may indicate that Le Trosne is the author of this article. This would be significant since the same article contains a fascinating discussion of the theory of rent. See section 8.4.

[...] the indispensable expenditures which a thing has required [...] are common to every sort of cost, be it of cultivation, be it of transport, or industry. Before anything, they must be repaid in the price (1777b:893).

However, he immediately makes a distinction between the indispensable expenditures of agriculture and those of other activities, by using the term 'fundamental price' for the former, and 'necessary price' for the latter. This is a general physiocratic usage, which reflects the privileged status of agriculture in that body of economic theory.<sup>27</sup>

The interplay between 'current price' and 'fundamental price' contains the physiocratic conception of how in an established society, produced quantities adapt to demanded quantities. Le Trosne recognises that production will only occur if there is a market demand at, or above, the fundamental price:

[...] while one has to assure it [their merchandise] of a demand [*débit*], one could not give it for less without loss; and if one does not find a demand [*débit*] for it, one will reduce its cultivation (1777b:892).

Thus, in the controversy between the 'subjective' value theory of Condillac and the 'objective' value theory of Le Trosne, the question whether demand determines what is being produced, and in which quantities, is *not* an issue. Both men agree it does.<sup>28</sup>

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27 Cf. Vaggi (1983:9-10).

28 In section 4.3 the meaning of the term *débit* in physiocratic theory will be discussed more fully. It stands for 'actual demand', *i.e.*, demand backed by the means to pay at the prevailing market price. One could get the impression from Allais (1992) and Eltis (1993) that the physiocrats do not have a theory of demand. Both men place great stress on this aspect of Condillac's theory. Allais argues that Condillac pioneered the idea of 'adequate markets', and Eltis confirms this view. However, prior to Condillac the physiocrats persistently stress the notion that goods will only be produced for the market if there is an effective demand for them. This is even acknowledged by their opponents. For example, De Brancas (1768:12) argues that in the *Philosophie rurale* the following causal reasoning is employed: 'Consumption generates demand; demand exchange value or sales value [*valeur d'échange ou valeur vénale*]; sales value, wealth; wealth, production; *voilà* indeed a generation *généalogico-économique*'. It is likely, that Condillac simply takes over this idea from his opponents, while it is true that Condillac uses some elegant metaphores to express it. However, the point is that a subjective theory of value is not a requirement for an adequate theory of the notion that produced quantities adapt to demanded quantities. This is quite clear in the physiocratic response to Graslin's theory (cf. note 26 above). In the *Ephémérides* (1768, vol. 10:188-9) the latter's idea that 'need and scarcity' (*besoin et rareté*) are the determinants of the relative prices of goods, is answered in the following manner: 'It is evident that nothing can be changed about that level [*i.e.*, the level of prices dictated by the necessary costs of production of things], which is absolutely independent from need and scarcity; because scarcity soon disappears *vis-à-vis* need, if the latter is seconded by the means to satisfy it; any new product which, because of its scarcity, enjoys a value which is superior to its necessary [value], will soon be reduced through the activity of external trade and the promptitude with which it [*i.e.*, the new product] will be multiplied; on the other hand, every old product will disappear successively, following the [changed] taste of consumers [*le goût de sa consommation*]; and everyone will beware of continuing the cultivation of a good whose value is below its necessary price'. The author continues by giving a more detailed explanation of the different items which enter into the cost price of things, which he calls *prix de compensation*. The article concludes with a sentence which gets a wry significance in the light of the course which economic theory would later take: '[...] the principle of relative values, founded upon the relation of the prices of compensation, dispenses with [the need to] resort to chimeras of need and scarcity [*chimeres du besoin & de la rareté*], equivocal terms which only present a deceptive light, and which become darkness astray of the light'. For a very brief impression of the content of Graslin's theory see note

It has to be said that Le Trosne has considerable problems expressing the precise relationship between 'current prices' (market prices) and 'fundamental prices' (costs of production'). This is a general problem in physiocratic economics. As will be discussed in later chapters they presume that in a liberalised economy the current price of agricultural products will be above the fundamental price, and will therefore be a *bon prix*. However, they do not have a consistent theory of profit, which would explain the relation between market prices and 'normal' prices of production more precisely.<sup>29</sup>

Despite this qualification, it can be said that in physiocratic theory the market prices of merchandises are related to their costs of production. However, this does not mean that the *économistes* ignore that merchandises have to be found useful in order to be sold.<sup>30</sup> As was noted, the physiocratic term 'wealth' stands for *useful* saleable things. More specifically, from the point of view of the *buyer* merchandises are considered as 'goods', *i.e.*, as objects appreciated for their capacity to satisfy a need or desire.<sup>31</sup> The opinion that *both* buyers normally believe to benefit in an exchange is clearly expressed by Quesnay in the 'Dialogue on the Work of Artisans', where it

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62 below.

29 See section 7.2.2 below. As will be argued in chapter 7, Turgot, Morellet and Isnard attempt to incorporate a theory of profit as a normal return on capital into the physiocratic model, and thus amend the notion of 'fundamental price'. In the last analysis the difficulties which all these writers experience in relating market prices to prices of production arises from the shared notion that the economy produces a surplus. The fact that this surplus has to be distributed means that fundamental prices can not simply be prices which cover the costs of the goods used up in production. In addition, the fundamental price has to include a surplus element.

30 The opposite is maintained by contemporaneous critics of the physiocrats. De Brancas (1768:6) argues that '[i]n the sense that the *Economistes* want to take that term *value*, they have to admit that the one who possess a good [*bien*] attaches a price, an affection, to it which inspires the desire to enjoy it in the one who can acquire it, and persuades him that he does not give in exchange a good which its first owner does not esteem. If one does not at all presume that people appreciate, evaluate their goods [*biens*], [then] I do not know how one can arrive at the general idea of value'. Similarly, Condillac (1948:247) argues: '[...] one should not say, following the *économistes*, that [value] consists in the relation of exchange between one thing and another: that would be supposing, like them, [that] exchange [is] prior to value; which would reverse the order of ideas. In fact, I would not make an exchange with you, if I would not judge that the thing that you give to me has a value [...]. To use a proverb, the *économistes* have put the cart before the horse'. These critics ignore that the physiocrats acknowledge that in order to be exchanged commodities need to be judged to have a *use* value. They only argue that *exchange* value 'arises' in the act of exchange. *Inter alia* is interesting to note that Turgot's response to de Brancas' work is particularly dismissive. In a letter to Dupont, August 31, 1769 (Schelle 1913-23, III, 61-4) he calls de Brancas a malicious fool [*fou méchant*] whose arguments do not even have to be refuted since they are harmless follies [*sottises*]. He further compares him with a skunk who when pursued releases such a stench that the hunter withdraws. Whether these unkind remarks specifically relate to the above opinion of de Brancas is unclear.

31 The terms 'need and desires' may be understood to cover the motivations of agents who buy in order to consume (final goods) as well as ones who buy in order to reproduce. The latter are *entrepreneurs* who in their capacity of buyers are interested in the physical properties of 'inputs'. Of course, they are also interested, *as sellers*, in the *exchange value* of the inputs (advances) in relation to the exchange value of their produce. The more specific concept of 'capital' (wealth used in the production of other wealth) thus also has two sides to it. That is means of production are use values and exchange values (See chapter 7).

is observed:

In fact, it must always be assumed that it [exchange] is profitable to both; for both sides procure for themselves the enjoyment which they can obtain only through exchange (Quesnay 1766c:214).

This may appear to be a surprising admission by Quesnay that (use) value is a subjective property.<sup>32</sup> However, this need not to be the case. It must be carefully noted that, under the assumption of a social division of labour, the sole fact that different producers buy and sell *physically different* merchandises, can account for the opinion that trade is mutually beneficial. Trade can be considered mutually beneficial even when it is assumed that the needs of different individuals are basically *the same*. No subjective argument is required.<sup>33</sup> This seems actually to be Quesnay's position. In 'Men' he argues that

[...] use value is always the same, and is always a matter for greater or lesser concern to man according to the relation it bears to their needs and their desire to enjoy it. But the price on the contrary varies, and is dependent upon different causes which are as inconstant as they are independent of men's will (Quesnay 1757b:90).

The first sentence suggests that Quesnay is of the opinion that use value is something which is more or less invariable in the sense that the order of needs is relatively stable and roughly the same for all men. Whatever the merit of this opinion, it is compatible with the notion that trade is mutually beneficial.

The point that the physiocrats do not fail to notice that exchange is mutually beneficial (in the sense that each contractant receives a preferred use value) is especially clear in Le Trosne's response to Condillac. The former maintains against the latter that

[...] the preference which one attributes to the thing which one receives is not a reason at all to maintain that in exchange no value for equal value is given, and that one gives less for more (Le Trosne 1777b:904).

After considering Condillac's subjective arguments at some length, Le Trosne concludes

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32 This interpretation is given by Vaggi (1987:59) who supports his view by referring to the passage cited above in the main text. Moreover, Vaggi seems to follow Meek (1962:372) on this point. In contrast, here it is argued that Quesnay is merely saying that exchange is mutually advantageous because people can only obtain most commodities through exchange. Also cf. Quesnay (1757b:89): 'Men, [...] stand in need of the utilities provided by different items of wealth, and those items which they possess over and above their own requirements should serve to enable them to procure those which they lack and desire'.

33 In clarification, assume two traders who *both* need bread first and bubble gum second. This is so because everybody *agrees* that bread is more useful (wholesome and all that). A produces bread and B bubble gum, because that *happens to be* the social division of labour. By exchanging they both end up having bread and bubble gum, which is much better to A than having only bread, and to B than just having bubble gum. Of course, this has nothing to do with an Edgeworth-Box situation with given endowments and marginal rates of substitution. A (B) does not see his excess production of bread (bubble gum) as a use value at all. He sees it as a means to obtain some of the bubble gum (bread), *i.e.*, as an exchange value (that is why he produced it). Only the merchandise obtained in exchange he sees as a use value (*i.e.*, he wants it for its physical properties).

[b]ut all these personal considerations, all these little particular calculations do neither affect the [nature of] the contract at all, nor value which, albeit not an absolute quality inherent to a thing, is by itself independent from the judgments which we hold. The estimate [*estime*] which we make of the thing can make us decide to buy or not to buy; but the thing does not lose any of its value by it, because we are not the only buyers, and because if it does not suit us, it can suit someone else (1777b:906).

Le Trosne's position involves a strict distinction between, on the one hand, the 'motives', or the individual 'estimate' of the use value of the good which is desired by the individuals entering into a contract, and, on the other hand, the 'fact' of a given relative price (or exchange value) of their respective merchandises. The preference which an individual ascribes to the goods of another '[...]' is indeed the *motive* which leads to contracting'. Le Trosne even freely admits that '[...] utility can only be relative, [in the sense that] the same thing can be found useful by one [person] and unuseful by others' (1777b:890). However, the personal preference of any single consumer does not affect market demand:

It is enough that it [a merchandise] is known to be sought after by *a certain number of persons*, to have a value even in the eyes of those who do not regard it useful [*estiment*], and who could accept it in exchange to dispose of it [*i.e.*, resell it] (1777b:890).

Thus Le Trosne argues that in a large market society not every individual has to find a thing 'useful' (*i.e.*, suitable to satisfy his particular needs and desires) for that thing to *be* useful. Perhaps it can therefore even be said that 'use value' in an established society is a social ('inter-subjective') quality, as opposed to a subjective one.<sup>34</sup>

In conclusion, in physiocratic theory use value and exchange value, or price, are two distinct notions. That is, as Le Trosne states

Utility is not the measure of value. Although value supposes some kind of utility, it does not follow that it will be proportional to the degree of utility (1777b:891).<sup>35</sup>

The principal reason for this view is not that Le Trosne fails to grasp the notion of marginal utility, but, as was argued in this section, because he adopts a different theoretical perspective on the

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34 This would also mean that the possible disagreement between Le Trosne and Quesnay with respect to the question whether all people have the same structure of needs and desires, is at the level of society as a whole, irrelevant. For example, Le Trosne states that '[t]obacco was a plant without any value before people had found out its use. The new needs which they have developed for it has given rise to a new cultivation [...]' (1777b:890). Thus, before it was known that one can smoke tobacco, nobody was interested in producing it for the market. After this discovery, *some* people have started to find it 'useful' to smoke the plant. First the tobacco plant did not have a 'social use', then it got one. It is irrelevant whether some people (including the tobacco farmers) do not like smoking; as long as some do, and are willing to pay money for it, tobacco will be produced.

35 Cf. Quesnay (1757b:90-1) and (1767a:257).



phenomenon of exchange.<sup>36</sup> In an established society physical objects (use values) are reproduced in order to be exchanged. Objects acquire a price in the act of exchange. In order that reproduction is continued this price at least has to cover the prices of the items used up in production.

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36 Eltis (1995:222) argues that Condillac already developed the concept of decreasing marginal utility (an interpretation earlier defended by Lebeau [1903:321-8]), and suggests that the physiocrats should have taken over this notion from him. By not doing so '[t]he Physiocrats missed an outstanding opportunity to absorb the influence of utility on value and human motivation into their analysis' (Eltis 1995:233). Two points can be made with respect to this interpretation. Most importantly, it can be seriously doubted whether the physiocrats stood in need of Condillac's subjective ideas to theorise the adaptation of production to demand (see especially notes 28 and 34 above). Second, it can be doubted whether Condillac formulated the idea of decreasing marginal utility. The interpretation is based on Condillac's observation that '[w]ith abundance, value can even diminish to the point where it becomes zero' (1776:245). Besides the observation made by Klein (1985:62) that Condillac '[...] did not treat supplies with discrete units and analyze exchange on the margin', it has to be noted that the meaning of the term 'value' in this sentence is unclear. Condillac uses the term 'value' in at least three senses. First, he asserts: '[s]aying that a thing is valuable, is saying that it is, or that we judge it to be, good for some use' (1776:245). This judgement in turn depends on the combination of the 'utility' of a thing and on its 'rarity or abundance'. It is quite important to note that these two factors are independent from one another according to Condillac. The 'value' of a thing can change without its 'utility' being altered: 'The greater or smaller value, *utility being the same*, will be uniquely founded on the degree of rarity or abundance, if that degree could always be known exactly; [...]'. This suggests that 'utility' is not a function of the quantity held, and thus that the 'value' which 'diminishes to the point where it becomes zero' does not stand for 'decreasing marginal utility' at all. Second, in other places 'utility' and 'value' are used as synonyms to indicate some *objective* ability of objects to fulfil a human need. This is the case in a section which was added to the 1798 edition of *Le commerce* where Condillac distinguishes between 'natural' and 'artificial' value. Wheat has a *valeur naturelle*, but diamonds only have a *valeur factice* because these objects are 'unuseful to society'. 'One says that a thing is useful [*utile*], when it serves some of our needs; and that it is unuseful when it does not serve any, or when we can not do anything with it'. According to some commentators, these passages indicate that Condillac's conception of human needs is insufficiently subjective (Knight 1968:244; Klein 1985). In fact, Condillac's position on this point is similar to that of Quesnay and Le Trosne. Third, confusingly enough, Condillac also employs the term 'value' to express 'exchange value' or 'price'. He uses the expression *valeur relative* to denote the general estimation of the value of things, and the foundation of the *price* of things (1776:249). In this sense if the 'value' of a good 'diminishes to zero' it merely means that its market prices falls to a very low level, a possibility which the physiocrats do certainly not deny. At the same time, Condillac accuses the physiocrats of confusing 'value' and 'price' (1776: 247, 249-50). However, Le Trosne merely argues that the term 'value' should be used to denote 'exchange value' or 'price'. He acknowledges that '[...] the term "having value" [*valoir*] can be understood in two ways which should be distinguished. If one understands by having value, having a utility, [then] without a doubt water is very valuable indeed; [...]. But economic discussions are about exchange value [*valeur vénale*]'. As we saw the physiocrats freely admit that use value is 'prior to' exchange, and even that in exchange both contractants benefit in terms of use value. Against the counter accusation that Condillac himself confuses 'use value' and 'exchange value' he argues that this is intentional. In the 1798 edition of *Le commerce et le gouvernement*, he writes triumphantly: 'They have said, you confuse, the value of things with the motive which leads to exchange. Undoubtedly, and that is on purpose: indeed value is the only motive which could guide me. What other [motive] could I have? [...] I say thus that in individual exchanges, value is the particular esteem which each has of things; and I add that is the general esteem which society itself ascribes to them [...]' (1776: 256). To some extent all this boils down to a bothersome linguistic confusion about the word 'value'. However, it is important to note, first, that Condillac's analysis of relations between the concepts of 'utility', 'value' and 'price' are quite ambiguous (cf. Schumpeter 1954:1054). Second, and more importantly, the fact that the physiocrats were not '[...] prepared to absorb the best of the economics of l'Abbé de Condillac' (Eltis 1995:234) is probably not the result of technical difficulties like an imperfect understanding of the notion of marginal utility, but because their perception of the phenomenon of value and exchange is essentially different.

## 2.3 Turgot on value and exchange

### 2.3.1 Introduction

The previous discussion offers an interesting perspective on the analyses of 'value' and 'exchange' of Turgot. His views on these issues have been discussed many times, in opposing ways. The large divergence between the various interpretations of Turgot's views can be said to reflect a real problem, chiefly how the analyses of value and exchange in his two principal contributions to the issue, 'Value and Money' and the *Reflections*, are related to one another. Two dominant and radically different interpretations may be distinguished, each claiming that the ideas expressed in the two texts can be reconciled. On the one hand there are commentators who emphasise that Turgot's views should be interpreted in the context of the classical distinction between market prices and prices of production.<sup>37</sup> On the other hand, there are commentators who emphasise the similarity between Turgot's ideas and the analyses of pure exchange of the early marginalists.<sup>38</sup>

The implication of the first position is expressed by Groenewegen in the following passage:

[...] the subjective elements which appeared in [Turgot's] paper on 'Value and Money' were largely designed to illuminate the problem of exchange and market price determination and do not conflict with the dichotomy between market price and fundamental price to which he adhered (Groenewegen 1982:129).

In other words, the discussion of 'Value and Money' is said to be concerned with the determination of market prices and not with the 'underlying' factors which determine fundamental prices.

The opposite view about the relations between 'Value and Money' and the *Reflections* is that the former text should be seen as providing the 'microeconomic' underpinning of Turgot's views on value and price in the latter text, making him the first economic theorist to build up his theory of value from an analysis of isolated barter to a discussion of value under conditions of perfect competition.<sup>39</sup>

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37 Groenewegen's general position is that '[...] the resemblance between Turgot's economics and that of post-1870 writers is superficial [...] Turgot is essentially an economist of the classical school' (1982:131; cf. Groenewegen 1987b:711). The same view is taken, for example, by Romani (1981:116), and Vaggi (1983:16 n.2). The fact that Groenewegen, the foremost expert on Turgot, has over the years become much more critical about attempts (including his own) to portray the latter as a precursor to early neoclassical writers, is significant. It does not only illustrate the difficulties on interpretation involved, it is also a sound warning against anticipatory readings.

38 Specifically, Turgot's views have been likened to those of Menger, Wicksell (Groenewegen 1970:186-7 n.44) and Edgeworth (Jaffé 1974:381; Desai 1987).

39 Jaffé (1974:381 n.2) states: 'It is noteworthy, [...], that Turgot was probably the first to use an isolated barter theory, such as it was, as a steppingstone to a theory of price formation in the case of multiparty competition'. He postulates an indirect historical connection in this respect between Turgot and Edgeworth via Courcelle-Seneuil (*ibid.* 383 n.10). Similarly, Groenewegen (1970:191), referring to section 32 of the *Reflections* argues that '[i]n a two-commodity case with "perfect" competition, the exchange ratio (or current price) will be the average of all individual esteem values, that is, a "mean price"'. He compares this reasoning to that of

Neither interpretation is wholly satisfactory. A crucial problem seems to be that in 'Value and Money' Turgot considers exchange between two isolated traders who each have a 'fixed' supply of one good, while in the *Reflections* he discusses the phenomenon of exchange of reproducible commodities within a society with a developed division of labour.<sup>40</sup> Moreover, the principal conclusions which Turgot draws in the two texts concerning the nature of exchange appear to be quite different. In 'Value and Money' he insists that in an individual exchange the preference which each trader ascribes to the quantity of goods he receives over what he gives up, is 'equal on both sides'. In the *Reflections* he argues that entrepreneurs tend to recoup in the sale of their products all costs incurred in production.<sup>41</sup>

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Walras and Wicksell (*ibid.* n. 61). Desai (1987:197) pushes this analogy much further. He asserts that Turgot's '[...] method of reasoning [is] incredibly modern' since by building his theory of value on the isolated barter case Turgot '[...] was able in the second half of the 18th century to anticipate by a century the theoretic foundations of general equilibrium of exchange'. This he tried in order '[...] to escape from Physiocratic value theory via a route which did not lead to the classical labour theory of value'.

40 In 'Value and Money' Turgot explicitly states that he considers an isolated exchange between two savages: 'Suppose [...] that on a desert island, in the middle of the northern seas, two savages land on different sides, one bringing fish with him in his boat, more than he can consume himself, the other carrying hides beyond what he can use to cloth himself and to make himself a tent'. In fact Turgot considers isolated exchange under two supposition. He first briefly supposes that the two men '[...] are each provided more than abundantly with the thing they possess [fish and hides respectively], and are accustomed to attach no price [*prix*] to the surplus [*superflu*]' (1769:141). Turgot clearly considers this as an uninteresting case: '[...] the discussion on the conditions of exchange will not be very animated; each would let the other take, one all the fish, the other all the hides which he himself does not need' (*ibid.*). This 'valueless surplus' commodity case is discussed in some detail by Groenewegen (1970:187). (It is quite similar to the case which Condillac takes as being the typical one in *Le commerce et le gouvernement*. See section 2.2 above.) Next, however, Turgot argues that it is more interesting to '[...] give each of these two men an interest in keeping their surplus, a motive to attach some value to it' (1769:141). This is done by changing the assumptions: a situation is created in which the two traders have a fixed supply of commodities, the one corn and the other wood, which has to last for several months (*ibid.*). Fish does no longer suit Turgot's purposes because it is too perishable. About the new goods, grain and wood, he specifies that neither of them is produced on the island. The fixity of supplies is guaranteed by assuming that both traders '[...] were perhaps driven away by the fear of wild beasts or a hostile nation; [...]', and by assuming that they will only again dare to take to the sea after the stormy season. Now the stocks of corn and wood become 'very precious' to their respective owners. At the same time they both stand in need of the stock of the other: '[...] the wood which the one can consume in a month will become quite useless to him, if in the meantime he dies of hunger for want of corn, and the owner of corn will be no better off if he is in danger of perishing for want of food' (*ibid.* 141). Thus, Turgot, rather incisively, sets up a situation which is very *unlike* the *Reflections* with its circulation of reproducible goods. This poses a problem. In section 2.3.4.2 it will be argued that in 'Value and Money' Turgot tries to demonstrate that commutative justice is the automatic result of the bargaining process between self-interested traders.

41 For clarity, even if one wants to read 'Value and Money' as a theory of exchange employing the notion of fixed endowments and substitution in consumption (which is questionable; see note 77 below), there is certainly no suggestion whatsoever that in the *Reflections*, Turgot would have wanted to apply an analogous analysis to the theory of production. This is pointed out by Pribram (1983:118): '[t]here was, however, hardly a clear connection between Turgot's value theory [in 'Value and Money'] and his ideas about productivity, which on the whole, were similar to those of the physiocrats'. In contrast, Faccarello (1992:270-1) argues that Turgot's fundamental price should be understood as a Marshallian long run price. He bases this on Turgot's remarks about variable returns in agriculture in the 'Observations on a Paper by Saint-Péravy' (1767) which '[...] could have give rise to a complete theory of supply of the "neoclassical" type, if they had been generalised'. This seems to be an excessively anticipatory interpretation.

In order to try to understand how these two positions are related to one another, Turgot's earlier ideas will first briefly be examined (section 2.3.2). Then the two later contributions will be examined in more detail. It is 'Value and Money' which poses the main difficulties. Two possible readings will be considered. In the first place, there are some suggestions in Morellet's comments on Turgot's manuscript that the discussion of the economic behaviour of savages living outside society is not necessarily applicable to that of men living within society (section 2.3.4.1). Alternatively, Turgot's analysis may be interpreted as a response to discussions of natural lawyers of the principle of commutative justice (section 2.3.4.2).

### 2.3.2 Turgot's early ideas

It is clear that at least since his early twenties, Turgot was interested in specifying a theoretical mechanism through which under conditions of free trade, market prices would be realised. As early as 1749, in a letter to the Abbé de Cicé, Turgot expresses the view that '[...] all the commodities of the State are always balanced among themselves and with gold and silver, in accordance with the proportion of their quantity and their vent [...]' (Turgot 1749:4).<sup>42</sup> This idea remained a preoccupation of Turgot, judging by the fact that much later, in 1767 in a letter to David Hume, he confirms that it is '[...] certainly never contested' that 'the relation between offer and demand [...] is the unique principle which immediately fixes the price of all things which have a value in trade' (Letter of 25/3/1767 in Schelle 1913-23, II, 663).<sup>43</sup>

The interesting question here is whether Turgot's views about the precise content of this 'principle' altered in a significant manner during the late 1740s and the late 1760s. It is probable that they did. At the very least Turgot starts expressing himself more clearly in later writings. His initial statement is of course rather vague; it is not at all clear what he presumes to be the forces underlying 'supply' (*quantité*) and 'demand' (*débit*).<sup>44</sup> It is only in a manuscript, dated by Schelle to 1753-4,

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42 The last few words read in French: '[...] *suivant la proportion de leur quantité et de leur débit*' (Schelle 1913-23, I:146).

43 '[...] the relation between offer and demand' reads in the original '*le rapport de l'offre à la demande*'. See also 'Eloge de Gournay' (1759:21) where Turgot argues that there are '[...] special and basic laws, founded in Nature itself, by which all the values existent in commerce are balanced against each other and settle at a certain value, just as bodies left to themselves take their place, unaided, according to their specific gravity; [...]'.

44 The most likely thing is that at the time he believed, following Locke, that quantities demanded in and supplied to the market bore a close relation to 'the number of buyers and sellers'. Locke argues that 'vent' and 'quantity' could be equated with 'buyers' and 'sellers', and he therefore states: 'The price of any commodity rises or falls by the proportion of the number of Buyers and Sellers. This rule holds Universally in all that are bought and Sold' (Locke 1696) In 1705 John Law criticises Locke for using the term 'vent' instead of 'demand'. Turgot is probably referring to this criticism since he defends Locke against Law in his 1749 letter. Cf. section

that Turgot becomes more specific.<sup>45</sup> Under a subheading 'Property', he gives the following description of exchange:

Trading, that is exchanging, is giving that which one has in order to receive that which one does not have. Property on the one side, desire [*le désir*] on the other, *voilà* the two elements of trade. Properly speaking one even has to count four [elements], because, in every exchange, there are two terms [*termes*]; two things possessed; [and] two things desired by the one who does not possess them and [which are] consequently handed over from the one to the other. Property on both sides is the basis of exchange; without it exchange could not take place; desire on both sides is the motive of exchange, and it is the comparison of the reciprocal desires from which the evaluation arises, or the appreciation of exchanged things, because the price of a thing, the motive which engages the owner to dispose of it, that motive can be nothing but an equivalent advantage; and he only judges that advantage to be equivalent by the desire which he has for it. Thus, everything which is possessed and desired can be the object of an exchange and [can] enter into trade; I say possessed and desired [...] I could have said everything which is owned, because all that can be owned can be desired, although all that can be desired can not be possessed (Schelle 1913-23, I:378-9).

This passage (in particular the view that the 'motive' which engages traders to exchange is an 'equivalent advantage') can be said to anticipate the discussion of exchange of 'Value and Money'.<sup>46</sup> However, in the same manuscript Turgot also considers the fact that merchandises should at least command a price which covers their costs of production. He distinguishes between the 'current price [*prix courant*] of all merchandises [which] varies incessantly' (*ibid* 384), and the fundamental price [*prix fondamental*], which presumably does not. The fundamental price is described in the following way:

Each merchant [...] knows what his merchandise costs to him and, consequently, he knows up to which point he can reduce the price without biting into [*entamer*] the profit necessary to his subsistence and to the maintenance of his trade; [...] (*ibid.* 385).<sup>47</sup>

The use of the term *prix fondamental* is somewhat curious, because it is generally understood to be first used by Quesnay in 1757 in the *Encyclopédie* article 'Men'.<sup>48</sup> This throws some doubt on

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4.3. n. 34 below.

45 'Plan d'un ouvrage sur le commerce, la circulation et l'intérêt de l'argent, la richesse des états'. In Schelle (1913-23, I:376-87). In this text, Turgot uses the identical terms *offre* and *demande* as later in his letter to Hume. He writes for example, that '[...] prices are ruled by the relation between supply and demand [...]' ('[...] ces prix sont réglés par le rapport de l'offre à la demande [...]') (*ibid.* 383). He further asserts that the current price of a merchandise '[...] is nothing but the comparison of the need which all the buyers, taken collectively have, with the supply of all the sellers, also collectively, which establishes the exchange value of it'. ('[...] il n'y a que la comparaison du besoin qu'ont tous les acheteurs pris collectivement avec l'offre de tous les vendeurs pris aussi collectivement qui en établissent la valeur vénale' (*ibid.* 384)). By themselves these are rather empty statements in the sense that they are neutral with respect to the 'underlying' value theory.

46 Meek (1973a:15) ignores this passage, and concentrates instead on Turgot's views with respect to the costs of production in the same manuscript, and which anticipate the theory of the *Reflections*. In contrast, Faccarello (1992:269) emphasises the similarities with 'Value and Money'.

47 It should be noted that Turgot probably does not yet have the more precise concept of profit which appears in his later work. See section 7.3.6 below.

48 See INED II, 529. Cf. Vaggi (1983:8-9).

Schelle's dating of the manuscript. In any case, it may be said that the manuscript anticipates both his later discussion of the *Reflections* and that of 'Value and Money'.

### 2.3.3 Value and exchange in the *Reflections*

It is difficult to overlook the fact that in the *Reflections* Turgot considers the production and exchange of goods within an established society. The text commences with an explanation of the social division of labour (sections 1 to 4). Turgot starts by briefly considering the 'hypothesis [which] has never existed and could not have continued' of a society in which land would be 'divided among all the inhabitants of a country in such a way that each of them possessed precisely the quantity necessary for his support and nothing more' (1766:43).<sup>49</sup> In this state 'no one would be willing to work for others' and

[n]either would any of them possess the wherewithal to pay for the labour of others, for each person having only so much land as was necessary to produce a subsistence, would consume all he had gathered, and would have nothing which he could exchange for the labour of others (1766:43).

In Turgot's opinion, '[e]ven if this state of affairs could have existed' it could not have endured for two reasons. First, there is the "physical" fact that 'every type of soil by no means produces everything', causing that no individual could supply himself with all the different goods which are suited to his needs. Therefore,

[e]xperience would soon teach everyone the kinds of products for which his land was most suitable and he would confine himself to the cultivation of that particular crop in order to obtain those things he required by means of exchange with his neighbours; who, having in turn reached the same conclusion, would have cultivated the crops best suited to their land, and given up the cultivation of all others (1766:43-4).

Second, there is the "technological" fact that in many cases agricultural products 'must undergo various changes and be prepared by art' to make them fit for consumption, and '[t]he greater part of these preparations require care, attention and long experience, such as are only to be acquired by working continuously and on a great quantity of materials' (*ibid.* 44). These two reasons explain why a social division of labour would soon establish itself among people, an arrangement by which each individual would benefit '[...] for each, by devoting himself to a single kind of labour, succeeded much better in it' (*ibid.* 45).

In the first sections of the *Reflections* Turgot therefore juxtaposes a (hypothetical) society in which all producers are self-sufficing, with a society in which as a consequence of the social

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<sup>49</sup> As will be seen in section 2.4 Isnard considers an identical case, and rejects it as unrealistic for the same reasons as Turgot.

division of labour, people produce one (or a few) products in excess of their own consumption, in order to exchange this excess for other products they need. In fact, it is this mutual dependence of individuals on each other's products which establishes society properly speaking:

[It is] this circulation, which, by the exchange of the objects of need, renders men necessary to one another, and constitutes the bond of society [...].<sup>50</sup>

This is reminiscent of Le Trosne's response to Condillac.<sup>51</sup> Admittedly, Turgot does not seem to draw the same consequences as Le Trosne with respect to the proper economic terms to be used in the analysis of exchange within society. For instance, he uses the term *superflu* to indicate the produce which the farmer produces for the market.<sup>52</sup> However, this does not alter the fact that in the *Reflections* Turgot discusses in effect the exchange of commodities which have been purposefully produced for the market.

This is clear from the fact that in this text the production decision of entrepreneurs is assumed to be ruled by the relation between the market value of their merchandise and its costs of

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50 '[...] *cette circulation, qui, par l'échange des objets de besoin, rend les hommes nécessaires les uns aux autres et forme le lien de la société* [...]' (*Reflections* section 5; my translation). Turgot's additional opinion that the farmer is the 'prime mover' in this circulation of goods is discussed in chapter 3. The view that it is the reciprocal dependency of people for the satisfaction of their needs which establishes society, reminds of Pufendorf's theory of sociability. Cf. note 5 above.

51 Two differences are worth noting. First, the hypothetical state which is rejected by Turgot is not identical to the one proposed as a starting-point of economic theory by Condillac ten years later. In the latter's original model it is not assumed that land is divided equally among isolated families. Second, Turgot's discussion of the social division of labour is superior to Le Trosne's reference to the emergence of a 'natural association of works and services'. In this context a passage in manuscript 2509 (cited by Di Rienzo 1994:449-50) of Morellet is interesting: 'If the land, says M. Turgot, in his excellent little work *of the formation of wealth*, would be so distributed among all inhabitants of a country that everybody would precisely have the quantity necessary to feed oneself and nothing more, [then] it is evident that nobody would work for someone else [...] Supposing that this large number of works could be executed by a single man who would at the same time be cultivator, builder, blacksmith, tanner, weaver, [then] he would only succeed very imperfectly in the execution of those different works [...] In that state of thing other serious inconveniences would exist. I mean a terrible loss of time and materials. [...] The need of a small class of proprietors and of entrepreneurs of cultivation, and, as a necessary result in a large society [*une grande société*], the existence of an infinitely more numerous class [which is] lacking landed property and occupied with manufacturing both for itself and for the first two [classes], is linked to the great principle of the prodigious advantages of the division of labour, so well developed by Adam Smith is his work *On Wealth*'. Morellet thus notes the similarity between the accounts of the social division of labour of Turgot and Smith.

52 See section 4: '*Le laboureur tirait de son champ la plus grande quantité de productions possible, et se procurait bien plus facilement tous ses autres besoins par l'échange de son superflu qu'il ne l'eût fait par son travail*' (emphasis added). Cf. note 14 above. Turgot's use of the term *superflu* in the first sections of the *Reflections* is further complicated by the fact that he also uses it to denote the 'net product' (see sections 7 and 11). Also missing in this text is an explicit differentiation between *biens* and *richesses*. However, in his comments on Graslin, Turgot clearly confirms that he adheres to this physiocratic distinction: 'I define as goods (*bona*) all objects of enjoyment, of property, of desire and of need. I define as value (*merae*) all things susceptible to exchange and evaluation. I define as wealth (*opes*) all goods which may be traded, all objects of enjoyment which have a value' (1767b:124). Cf. note 62 below.

production. Especially in sections 59 to 62 and 66 the need for (agricultural, industrial and commercial) entrepreneurs to recoup their advances in the sale of their produce is emphasised. As Groenewegen notes, in these passages Turgot

[...] implicitly recognises that exchanges (sales by the entrepreneur) must take place at prices which allow the continuation of production through the replacement of capital used up, and that such prices must allow a return on advances sufficient for the capitalist not to withdraw his advances (Groenewegen 1982:127).

In the *Reflections* Turgot does not use the term *valeur fondamentale* to denote prices of production. However, it is used in a well-known footnote in his 'Observations on a paper by Saint-Péravy' (1767). It is this which provides the clearest statement by Turgot of the idea that the production of a commodity is increased whenever its market price is above its fundamental price and reduced whenever the former is below the latter.<sup>53</sup>

Of course, Turgot's notion of the fundamental price differs from that of the physiocrats in the sense that the former stresses that producers in addition to their advances also need to recoup a 'pure return' over their capital in order to induce them to continue production.<sup>54</sup> However, in the context of this chapter it should be noted that this important idea does not alter the basic similarity between Turgot's approach and that of the physiocrats. Both argue that the economic calculations of producers, in an established society where production takes place for the market, are primarily ruled by the relation between 'current value' and 'fundamental value', the former being the price obtainable in the market and the latter the costs of production.

#### 2.3.4 'Value and Money'

The analysis of 'Value and Money' seems quite different. It has to be emphasised that the fact that text is no more than an unfinished draft rather complicates its interpretation. It is neither certain what the exact occasion for the article was, nor when precisely Turgot wrote it, although sometime in

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53 'Two types of value may be distinguished: fundamental value and exchange value. The fundamental value is what the things costs to him who sells it, that is, the raw material cost, the interest of the advances, the wages of labour and industry. The exchange value is the price which the buyer agrees upon with the seller. The fundamental value is fairly stable and changes less frequently than the exchange value. The latter is ruled by supply and demand, it varies with needs, and often a single event suffice to produce very considerable and very sudden fluctuations. It is not in any essential proportion to the fundamental value, but it has a tendency to approach it continually, and can never move far away from it permanently. It is obvious that it cannot remain below it for a long time; for, as soon as a commodity can be sold only at a loss, its production is discontinued until the resulting scarcity has again raised it to a price above its fundamental value. The price can similarly not be much above the fundamental value for any length of time, for this high price, implying high profits, would call forth the commodity and generate lively competition among the sellers. Now the natural effect of this competition would be to lower the price until it again approaches the fundamental value' (1767a:120 n.16).

54 Turgot's theory of profit and its relation to physiocratic theory is discussed in detail in section 7.3.



1767 or 1768 seems the most likely date.<sup>55</sup> The text is, by all accounts, an intriguing attempt by an incisive theorist to analyse the term 'value' under different assumptions. However, it is easy to exaggerate the coherence of Turgot's attempt. 'Value and Money' is not the seamless blueprint which some commentators make it out to be. Instead, on close inspection one gets the distinct impression that Turgot attempts to link a number of more or less disparate ideas about the concept of value. Moreover, some of those ideas seem incompatible with opinions which Turgot expresses elsewhere. This impression is strengthened if one considers Morellet's comments on 'Value and Money'. In the next section an attempt is made to use these comments to arrive at a more historically warranted interpretation of the relations between 'Value and Money' and the *Reflections on the Formation and Distribution of Wealth*.

### 2.3.4.1 Morellet's comments

There can be little doubt that Morellet used both 'Value and Money' and the *Reflections* for the

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<sup>55</sup> Most commentators are of the opinion that 'Value and Money' is a draft for a contribution to the third part of Morellet's *Dictionnaire*; see e.g. Schelle (1897:263-4), Thurlings (1978:124), Hutchison (1988:407), Faccarello (1992:258). Another possibility, suggested by Groenewegen (1977 xxvi n.78), is that Turgot wrote the text '[...] to aid Morellet in his preparation of the prospectus, rather than the dictionary itself'. That Morellet used 'Value and Money' in the preparation of the prospectus of the *Nouveau dictionnaire de commerce* is evident. Apart from the textual similarities between Turgot's contribution and the beginning of Morellet's 'Digression' (see next note), this is confirmed by the fact that a large fragment of 'Value and Money' appears under the heading *Valeur estimative. Valeur appréciative* in Morellet's ms. 2525 in Lyon. It is probably this document which Morellet refers to in a letter, dated 16 October 1768, where he reassures Turgot: 'I will return your papers about value in a few weeks, I really need them and you will have them quite soon' (*Lettres* I, n.32; Di Rienzo 1994:220 n.15). However, this letter comes two month after another letter, written around 27 August 1768 (*Lettres* I, 94-5), in which Morellet announces to Turgot that his prospectus is finally ready, and that he will send it to the printer (it eventually was published on 4 May 1769 [*Lettres* 97 n.17]). These facts assist in the dating of 'Value and Money'. They suggest that Turgot had written it by the summer of 1768 at the very latest. This slightly alters the commonly accepted view that 'Value and Money' '[...] was probably written in 1769, though possibly a little earlier' (Groenewegen 1977 xxv-xxvi). Some doubt can further be raised about the earliest possible date that Turgot can have written the text. Normally this date is believed to be sometime in 1767. The textual evidence for this is a reference to Graslin's *Essai analytique* (1769:140) which was only published in 1767. This seems rather decisive. Still it is worth noting that in *Valeur estimative. Valeur appréciative* the passage with the references to the works of Galiani and Graslin is missing. Just before the point where the passage should appear, the handwriting changes into that of Morellet (page 6) and the original handwriting (probably of a copyist) returns once exchange is introduced (page 9). This can mean two things. Either Morellet removed the passage which allows the dating, or that passage was not there in the version in Lyon. In the latter case, 1767 is not the earliest possible date. It would be helpful to be able to check the version of 'Value and Money' used by Dupont, Daire and Schelle to see whether the passage is a later addition. Finally, while it is clear that Morellet was in the possession of some version of 'Value and Money' when writing his 'Digression', it is not at all certain that Turgot wrote it with the intention of helping his friend. The similarities with the (probably) much earlier 'Plan' (see above) indicate that Turgot did not develop some of the ideas in 'Value and Money' strictly for this occasion. It seems possible that Turgot simply lent Morellet an outline of some ideas that had been occupying him since a much earlier date.

composition of his 'Digression' in the *Prospectus*.<sup>56</sup> What is more, a large number of the 19 notebooks in Morellet's manuscript 2525 discuss various aspects relating to the analysis of 'Value and Money'. As such he can be considered as the first commentator on Turgot's views on value and exchange. There are two important observations to be made about the discussions of these issues by the two men.

In the first place, both specifically state that the aim is to study the 'nature' of money. Turgot states: '[...] we are going to look at *money* [...] we follow the course of its introduction in commerce and the progress which the art of *measuring* value has made among mankind' (Turgot 1769:136). The same aim is stated by Morellet.<sup>57</sup> The primary theme is thus to examine how individuals may have *measured* the value of goods in successive situations. In a sense the more fundamental issue how the value of goods is *determined* is of secondary importance.

Second, the analyses of both men progress through a number of 'stages', or increasingly more complex suppositions under which the measurement of value is considered. In 'Value and Money' these stages are i) one individual, one good; ii) one individual, many goods; iii) two individuals, two goods and iv) four individuals, two goods. The same four stages figure in the 'Digression' but unlike Turgot's text it continues with the stages v) many individuals, many goods; vi) the situation in which one good becomes the 'common measure and pledge' of value; and vii) the situation in which this common measure and pledge is a precious metal. In Turgot's case these later stages appear in the sections 30-47 of the *Reflections*.<sup>58</sup>

An interesting question is whether this successive approach is only understood as an analytical progression or also as a historical one. It seems most likely that Turgot has a blend of analytical and historical progression in mind. This suggests the following relation between 'Value and

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56 The similarities between the 'Digression' and 'Value and money' can be found in the first six pages of the former and the whole of the latter text. See e.g. the first two paragraphs of p.98 of Morellet's text which are almost verbatim the last paragraph on p.136 and first paragraph of p.137 of Turgot's text. The similarities between the 'Digression' and the *Reflections*, appear from p.105 in Morellet's text, and refer especially to sections 30-47 of Turgot's work. E.g. compare Morellet p.105 with Turgot section 31, about mental aspects of the bargaining process; Morellet p.115 with Turgot section 41, about the etymology of 'pecunia'; Morellet p.117 with Turgot section 36 about the 'abstract sheep'; Morellet p.130 with Turgot section 34 about the functions of measure and pledge of value; Morellet p.137 with Turgot section 35 why wines are not suitable as money; and Morellet 137 with Turgot section 42 which have exactly the same passage about the purification of precious metals. Since the *Reflections* were only published after the *Prospectus* in 1769, Morellet must have possessed a draft version of the text as it was written down by Turgot at the end of 1766. According to Morellet the 'Digression' was incorporated in the *Prospectus* in order to give his readers '[...] the satisfaction of reading something more developed and less dry, than the simple and plain exposition of our outline' (Morellet 1769:97).

57 The full title of the 'Digression' is 'Digression in aid of the understanding of the outline of the New Dictionary, with relation to currencies'.

58 Cf. section 4.4.1 where the same stages (except the first two) are discussed in the context of Morellet's and Turgot's commodity theory of money. For the justification of distinguishing between the first two stages and later ones see the end of this section.

Money' and the *Reflections*. In the former text he considers the economic behaviour of an individual who still lives completely isolated of his likes (stages i and ii), and of savages living outside society who establish their first economic contacts (stages iii and iv). Then, in the *Reflections*, he considers how individuals living in a large society measure value. As we saw in section 2.2, Le Trosne draws a sharp distinction between the theory of exchange within and without society. It is the question whether Turgot is of the same opinion.

With respect to the first two stages, Turgot notes that for an isolated individual the term 'value' could only express 'utility' [*utilité*], or the 'suitability [of things] relative to our needs' [*bonté relative à nos besoins*] (Turgot 1769:137). He notes that this estimation '[...] has no relation to its commercial value [*valeur commerciale*]' (*ibid.*). This distinction is reminiscent of the physiocrats: to isolated man goods have only use value and no exchange value.<sup>59</sup> Turgot proposes to call utility 'esteem value' [*valeur estimative*] '[...] because it is in fact the expression of the degree of esteem

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59 Cf. section 2.2 above. Turgot also remarks that the notion of 'utility' '[...]' would be appropriate to a man in isolation without any communication with other men' (1769:137). The statement that 'utility' denotes 'suitability *relative to our needs*' does not mean that it is different from 'use value'. It should be carefully noted that Turgot does not have the complete subjectivity of modern utility theory in mind. He states somewhat cryptically that '[a]lthough this suitability is always relative to ourselves, yet we have in view, when explaining the word *value*, a real quality which is intrinsic to the object and through which it is suitable for our use' (*ibid.*). Similarly, Morellet (1769:107) calls utility a property '[...] so to say, interior to the thing'. Cf. ms. 2525,A:5 where '*l'utilité de la chose*' is described as *ses qualités intrinsèques relative à l'homme*. The use of the terms 'intrinsic' and 'interior' to refer to the physical qualities of objects is reminiscent of the use Locke and Law make of the term. What Turgot and Morellet probably mean is that while objects can only be suitable to fulfil a certain kind of need if they possess particular physical characteristics, this does not mean that every person will appreciate those physical characteristics to the same degree. (That is, people will agree about the fact that chestnuts and apples, but not hides, are fit to be eaten, while some like apples better and others chestnuts). In that latter limited sense of subjectivity, Morellet explains that, '[...] we do not want to exclude from the idea which [utility] represents any kind of [meaning of] relation. It is still relative to man; [...]' (Morellet 1769:99). This point is also relevant for the next stage of the analysis when Turgot and Morellet consider the comparison between the utilities of different goods. Morellet (1769:99,101) distinguishes this stage most clearly by arguing that 'utility' can be considered as 'absolute utility' (*utilité absolue*) and 'compared utility' (*utilité comparée*). Turgot remarks that once there are several objects the isolated individual can prefer one over the other, and thus 'he will compare them in his mind, he will appraise their worth' (1769:137). Groenewegen (1970:179, n.13) argues that this opinion implies that Turgot can be considered as an early ordinalist. Lebeau (1903:317) contrasts Galiani and Turgot in this respect to Condillac, who is said to have adhered to a cardinalist notion of utility. If this view is taken, it can be said that Morellet comes even closer to expressing the ordinalist insight. He states that in terms of 'compared utility' a good can be said to be worth '[...] as much, or more, or less than another' (1769:100). However, there is a serious reservations to this interpretation. Both Turgot and Morellet suggest that the direct comparison of utilities can only take place between the limited number of objects which are capable of satisfying the *same* kind of need (*genre de besoin* [Morellet 1769:102]). Thus apples can be compared with chesnuts, and fur can becompared with cotton garments. They do not presume that the 'aptitude' of apples to quench one's thirst can be compared with the 'aptitude' of a fur coat to keep one warm. It is likely that the lack of the latter 'insight' is related to their assumption that specific needs and desires can only be satisfied by particular objects with the appropriate 'intrinsic', *i.e.*, physical, qualities. The modern notion that it would be possible for an individual to *directly* order all goods on an ordinal scale of completely homogeneous 'utility-to-nothing-in-particular' is simply absent in these writers. For this reason it is somewhat misleading to call Turgot and Morellet 'ordinalists'.

which a man attaches to the different objects of his desire' (*ibid.*139).<sup>60</sup>

In keeping with the principal objective of the analysis, the 'progress in the art of measuring value', Turgot next addresses the question how isolated man could measure 'esteem value' in a more precise manner. He argues that for an isolated man a single scale, on which to express the relative usefulness which different objects have to him, is provided by the time and effort he would be prepared to sacrifice to obtain quantities of the various goods.

What then is the measure of [esteem] value here? What is the scale of comparison? It is clear that he [*i.e.*, isolated man] has no other than his own resources. The total sum of these resources is the only unit of this scale, the only fixed point of departure, and the value which he attributes to each object are the proportional parts of this scale. It follows from this that the *esteem value* of an object, for the man in isolation, is precisely that portion of his total resources which corresponds to the desire he has for this object, or what he is willing to use to satisfy this desire. It might be said, in other words, that it is the relation of this proportional part to the total of the man's resources, a relation expressed by a fraction, whose numerator was the unit and whose denominator the number of values or equal proportional parts which the total of the man's resources contained (1769:140).<sup>61</sup>

This curious passage, which does not have a counterpart anywhere else in Turgot's work, may well be an attempt to improve upon Graslin's theory of measuring utility. This is suggested by the remark that Graslin's doctrine '[...] of a constant and unique value which is always expressed by this unit and of which all values are proportional parts [...] is a blending of truth and falsity' (Turgot 1769:140).<sup>62</sup> Turgot's specific objection appears to be that it is not possible to compare classes of

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60 Morellet avoids the term 'esteem value', and uses the expressions 'utility' and 'degree of utility'. Both Turgot (1769:138) and Morellet (1769:101-2 and manuscript 2525, especially notebook M) discuss three factors which 'enter into the determination of the type of *value* relating to man in isolation': a) he will rank different objects '[...] in accordance to the necessity and usefulness of the different needs; b) relative to each kind of need, a judgement will be made about an object's 'relative capacity to satisfy the kind of need for which it is sought'; and c) '[a] third consideration is the degree of difficulty which a man meets in procuring the object of his desires; for it is quite clear that of two things of equal usefulness and quality, he would regard that which cost him more toil to obtain as the more precious, and that he will take much more care and effort to obtain it'. What this, somewhat vague, enumeration shows clearly, is that Turgot tries to distinguish between (i.) a ranking of different kinds of needs, or a 'ranking of more or less pressing usefulness', and (ii.), with respect to each kind of usefulness, a ranking with respect to the 'degree of suitability' [*degré d'excellence*] of a good to fulfil a particular need. This distinction makes sense if one takes into account that Turgot, considers utility to correspond to a 'real' and 'intrinsic' quality of an object 'through which it is suitable for our use'. See previous footnote.

61 I have made a small alteration to the second sentence of Groenewegen's translation of the passage cited in the main text. Groenewegen translates the word *mêmes* as 'actual'. The translation 'own' preferred here, expresses better the idea that the isolated man is understood to be self-supporting.

62 In his *Essai Analytique* Graslin develops the theory that there exists one absolute psychological scale of needs on which all individual needs can be ordered according to their intensity (see 1767:25). Different 'objects' have an absolute value which 'the degree of need naturally assigns [to them]' (1767:26). 'Absolute value' is defined as 'an accidental attribute depending uniquely on the need of man, like an effect depends on its cause' (Graslin 1767:33 n1). He justifies the conception of placing different needs on a single scale by asserting that all different needs are merely 'modifications of the love of well-being [*l'amour du bien-être*]' and therefore of the same nature (p.35 n1). Graslin's use of the term 'object' is very peculiar. In the first place it refers to any possible object of desire, from basic necessities to social esteem. Second, it does not refer to

goods which satisfy different needs directly with respect to their relative 'intensities'. This is confirmed by Morellet's discussions of the "labour measure of utility".<sup>63</sup> Thus the above passage may merely be a response to Graslin's theory that there exists a single scale on which the intensities of different needs can be quantified.

It is very significant that in the places where Morellet discusses the "labour measure of utility" he emphasises that he is concerned either with isolated man or with '*l'homme en société avec un seul autre homme*' (ms. 2525 D:2). In contrast, he labours the point that within society properly speaking the 'measure of value' is no longer the amount of time and trouble which a person would sacrifice in order to acquire a thing.<sup>64</sup> Interestingly (and confusingly) enough, Morellet employs this

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individual items, but to the whole of things which are the 'object' of the same need. The 'size' of an object is unrelated to the physical size, or quantity of individual things which it comprises. The magnitude of an object has a purely mental determination, and can just as well reside in a small or in a large physical quantity of the things which make up the object. To express the absolute value of an object, Graslin assumes that it is possible to consider this value as a fraction of the total of human needs. '[E]ach of those fractions, [...] all taken together are always unity, and consequently constitute a sum which is always the same' (1767:33 n1). The relation between any two needs is expressed by the constant fraction of both in the total of needs (1767:30-31). This absolute relation between two types of objects, also called 'relation of species' [*relation de l'espece*] (1767:27), is only ruled by the intensity of the need for either object. In contrast, there are also 'relative (or exchange) values': 'all the objects of need [...] have between them relative values, through the combined reason of the degree of need, and the degree of scarcity' (1767:24). The absolute value relation between two 'objects' is not influenced by the 'scarcity' of their respective quantities, but the relative value relation is. Thus for example, Graslin maintains that 'the total of wheat and that of wine will always have between them the same [absolute] relation of value; [...]' (1769:28-29). But the relative exchange ratio between a particular quantity of wheat and wine will be influenced by the available quantities (or *rareté*) of each.

63 In the *Prospectus* Morellet only briefly hints at this way of measuring utility (see 1769:102-3), but in several notebooks he discusses the idea in detail. In ms. 2525 C, Turgot's passage cited in the main text is substantially rewritten. The idea of measuring utility in terms of effort and time is further discussed in notebooks D, M, N and O. Generally, Morellet emphasises the difficulty of comparing utilities in terms of each other. An interesting passage in notebook M:12 reads as follows: '[T]he comparison of those different degrees of agreeableness, of rarity, of durability and generally of aptitude to satisfy the needs of man will be rather difficult to express exactly, even between two substances suited to satisfy the same need like that of nourishment, and much more between two things of which the use is relative to different needs, like when one would have to choose between a more abundant food and a warmer piece of clothing'. He then continues to argue that needs could be compared in terms of the time and effort one would be prepared to satisfy them. What this reasoning indicates is that Morellet acknowledges that there are different *kinds* of need (cf. notes 59 and 60 above). Turgot's idea of expressing utility in terms of fractions of the total time and effort available to isolated man may have been meant as a solution to this problem.

64 Ms 2525 N:8-17: '[...] it seems to me that labour does not have the right to be regarded as the standard [*étalon*] to which one can compare merchandises and money to determine their esteem value. Labour is not a fixed quantity. [T]he labour of a day can by eight hours 12 or 16, it can be more or less sustained, more or less active, more or less productive in the same period of time. [...] Those varieties in the nature of labour render impossible the fixation of of a first element of value in labour itself [...] 1<sup>o</sup> power, skill, [and] intelligence are [distributed] very unequally among men. It follows from this that 15 days of time and effort of this man can produce and prepare a kind or a quantity of objects suited to satisfy the needs of men, which another worker can scarcely produce in a month of time and effort. In that case the products of the two labours would have the same value although the time and the effort which the one has employed to obtain those products would be under this supposition double the time and the effort employed by the other and consequently the quantities of labour would be to each other as 1 is to 2. The quantity of labour can thus not be the measure of value. The only remedy to this inequality is to determine an average degree of power, skill and intelligence, and to take

argument against both Smith's notion of the labour determinant of value in the 'early and rude state' and Turgot's idea that isolated man could measure the utility of goods by the fraction of his total resources that he would want to sacrifice in obtaining it.<sup>65</sup>

On the one hand this may be seen as a serious disagreement between Morellet and Turgot. The latter suggests that the measure in terms of 'time and trouble' of isolated man is applicable to exchange within society.<sup>66</sup> It has to be stressed that this connection is rather tentative and

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this degree as the element of value but such a estimation seems to escape all calculations. [...] 2<sup>o</sup> Supposing that man pays to nature in terms of effort and time a price proportioned to the esteem which he has of each object and consequently [proportioned] to the utility to he attributes to them [then] this portion of effort and time would be an expression of the utility of the thing to him alone, but it would not appear to be a very precise means of evaluation for the others. [T]he esteem which each man attaches to an object can differ from that of another since their judgments and their needs are both very variable. The evaluation of saleable things [*choses venales*] in terms of labour presenting all the difficulties we have just seen, the evaluation in terms of merchandises [*denrées*] must naturally have been preferred for another reason still. [I]n the evaluation each merchandise is more frequently exchanged and compared with other merchandises than with labour. [I]t is therefore more natural to esteem its value in exchange by the quantity of some other merchandise than by that of the labour which one could obtain by that means. Most people understand better what a certain quantity of such and such merchandise is than what a certain quantity of labour is. [T]he first notion is of a palpable and perceptible object, the other is abstract and although one could render it sufficiently intelligible it is much less natural and easy to know'.

65 This he does in ms.2525, O. Morellet starts by noting that '[...] in the first and imperfect state of society before the division of labour [and before] trade had established assured social relations, every man only possessed that what he could obtain by his labour' (p.4) The next pages (5-14) contain extracts and paraphrases of chapters v and vi of book I of the *Wealth of Nations*. Thereafter (15-24) Morellet further elaborates the notion of a 'labour measure' by means of Turgot's idea that utility can be measured in terms of fractions of one's total resources. Morellet seems to assume that Smith's and Turgot's ideas are identical, which is questionable. To the primitive man in Smith's 'early and rude state' the labour devoted to obtaining an object is not his *measure* of the *utility* of the object. Instead it is the *determinant* of the *exchangeable value* of an object. The two ideas are conflated by Morellet when he argues that '[...] once man has found the expression of value of each object in the effort and time which he has expended in acquiring it, he will also find the expression of value of the object which he possess in another object which another man will give him [and] who himself has paid nature for that second object' (p.20). This does not exactly make the ideas of Smith and Turgot the same. It is difficult to agree with Di Rienzo (1994:224) that there is 'an extraordinary analogy' between the idea that isolated man measures the utility of goods by 'effort and time' and the idea that in early stages of society goods exchange proportional to labour expended on them. The important point is however that Morellet is of the opinion that neither idea is relevant to 'man in society'.

66 This he does in three steps. First, he introduces a second notion of 'esteem value'. It now stands for a preferred exchange ratio of the two traders. Through a bargaining process these two esteem values are said to be transformed into an 'appreciative value' or 'average esteem value'. (This process will be examined more closely in the next section). Second, Turgot attempts to reconcile his first notion of 'esteem value' with the notion of 'appreciative value'. On the one hand, for an isolated man the 'esteem value' which he ascribes to an object is measured by the fraction of 'the totality of his resources' which he would sacrifice to obtain this object and on the other hand in an exchange between two individuals the 'appreciative value', or terms of exchange, is the average of their respective 'esteem values'. Therefore '[...] the appreciative value in the exchange between two men is the relation between the sum of the parts of their resources which they would be prepared to devote to the quest for each of the objects exchanged and the sum of the resources of those two men' (Turgot 1769:144). Third, he argues that *in practice* people (use) 'value' and 'price' as synonyms: '[...] thus, for the acquirer, to express the value is to give the price of the thing acquired in terms of the quantity he gives to acquire it. He will thus say indifferently that this quantity is *the value*, or *the price* of what he buys' (1769:146).

ambiguous in 'Value and Money'. Morellet appears to have serious reservations concerning the idea that the 'art of measuring value' of isolated man is applicable to man who starts trading. (Note that the discussion is primarily about the *measurement* of value, and not about the *determination* of value, although admittedly this is not very clear).<sup>67</sup> Turgot seems convinced of the correctness of the method of starting economic analysis with isolated man.

We have dwelt for a very long time on the first hypotheses of man in isolation, and of the two men exchanging two objects; but we wished to draw from them all the ideas of the theory of value which do not entail more complications. By thus always utilising the simplest possible hypothesis, the ideas which result from it necessarily present themselves to the mind in a neater and more straightforward fashion (1769:147).

In this passage Turgot seems to state quite explicitly that in the (presumed) ideas and behaviour of primitive man, simpler analytical forms of the more complex ideas and behaviour of civilized man can be detected. By assuming that 'simple principles' can be derived from the analysis of the economic behaviour of 'primitive men' one easily misses the point that those principles may not be applicable if this behaviour is essentially altered in a 'more developed' society. It is this point which, as we saw, is made quite well by Le Trosne (see section 2.2 esp. note 5).

At times Morellet seems to acknowledge that the conclusions drawn in the earlier stages of the analysis concerning the economic calculations of man are *not automatically applicable* to man-in-society. For example, in one place he distinguishes between the two meanings of the term value in a manner which is reminiscent of Le Trosne: isolated man only knows utility, while in society with a developed social division of labour the notion of exchange value emerges. (In this context Robinson Crusoe, a favourite figure of later economists, makes a brief appearance, but, significantly, to contrast his economic judgements to those of man in society).<sup>68</sup>

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67 In clarification, discussions about the measure of value are concerned with finding an object (or analytical construction) which *expresses* (changes in) the relative values of other objects in a reliable manner. Discussions about the determinant of value are concerned with finding a (hypothetical) substance which *explains* relative values.

68 See especially ms. 2525 E of which the following passages are extracts:

[1] The word value has two different meanings, sometimes it expresses the utility of an object for the one who possesses it, and at other times the power which the possession of that object gives to obtain in exchange other objects. One can call the first of those values use value [*valeur d'utilité*] and the second exchange value [*valeur d'échange*].

[3] [...] one can say in that sense [*i.e.*, the sense of 'utility'] that for Robinson Crusoe on his island the tools [and] the little quantity of seed which he obtains from the ship would have a great value; and hides which are used as cloths [and] as a hut which protects a primitive family which lives in the forest without communication with any other family, are for her things which have value, much value [...] one can call that value use value and regard it as [something] absolute, not because it would not be relative to man, but because it does not imply any relation with any other thing.

[12-15] One can assume that at the origin of society everyone carried out for himself all the types of work which could supply his needs, that each family hunted, fished, cared for domestic animals, cultivated a plot of

What these observations seem to indicate is that Morellet acknowledges to some extent a fundamental problem with Turgot's (and his own) method of analysis. The problem concerns the fact that their analysis is a blend of historical and analytical progression. It implies that the two things are identical. It can of course be doubted whether Turgot does not himself implicitly acknowledge that the different circumstances under which goods are produced within an established society requires a different approach to the theory of exchange. As we saw (section 2.3.2), he commences the *Reflections* with an account in which the origin of exchange is explained from the mutual dependence of people in society for the satisfaction of their needs. It should also be noted that Turgot in his early writings and in the *Reflections* frequently employs the idea that societies move through historical stages which are, so to say, 'qualitatively' different from one another.<sup>69</sup> One is tempted to conclude that it is well possible that Turgot would have agreed with Morellet's criticism.

However, it has to be acknowledged that this conclusion is perhaps a little bit too convenient. Turgot may well have been insufficiently aware of the fact that there are serious objections against the method of analytically reducing specific complex ideas to *universal* simple ones.<sup>70</sup> In relation

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land, tanned its leather and hides, weaved some coarse cloth, made some shapeless shoes etc. In that state of things the goal of each is to supply nothing but his own [immediate] consumption and reserves, [the latter being] limited to what he could use of it and to what he could protect against the corruption of deterioration to which the majority of natural products and especially those which feed him are susceptible. As long as man with his family and every family at the beginning of society confine themselves to isolated labour limited by need [,] there cannot be any, [or] at least no regular, exchange since each has only the quantity of each thing which he needs of it either for present or future needs [*soit actuellement soit pour les besoins à venir*] of which he would not want to give up or exchange anything. [B]ut it will soon and naturally happen that some are devoted to one of those kinds of work and others to another [,] or at least that for each one kind has become dominant. [P]eople also soon found out that by devoting themselves exclusively to one kind of occupation each work became easier and more productive [*fecond en produit*]. [...] [T]hat change in the distribution of works has since then put in the hands of each a greater quantity of produce which was the particular object of his own labour [,] than he could consume or reasonably reserve for his future needs, but on the other hand he lacked all those [goods] with the growing or gathering of which he had not occupied himself and which would be in superabundance [*surabondamment*] in the hands of the one who had made of them the particular object of his labour and his cares. In that situation exchange is born from necessity itself where each finds himself in the situation of obtaining the thing he lacks from the one who has a quantity in excess of his own needs [*une quantité surabondante à ses propres besoins*] [,] each gives of what he has to much for what he lacks. *voilà* exchange or commerce'.

69 For a study of Turgot's stadial theory see Meek (1976). Also see Ravix and Romani (1984). The relevance of this theory for Turgot's ideas on accumulation are examined in section 7.3.1.

70 This is a more general characteristic of Enlightenment thought. As Servet (1994) shows, the '*fable du troc*', an account of barter between savages in a state of nature, figures in several economic texts of the time. Apart from Adam Smith's 'early and rude state', he names James Steuart 1767 (1966 I,154), and Beccaria (1804) I, 345 ff. Servet suggests that all these 'fables' may have a common ancestry in paragraph 14 of Locke's *Second Treatise on Government*. Especially Turgot's contribution in 'Value and Money' shows an influence of specific rationalist-sensualist philosophy *en vogue* during the Enlightenment. In France a crucial role in this philosophical discourse was played by Condillac, who developed a rationalistic version of Locke's theory of understanding (for authoritative interpretations of Condillac's role in this respect see Formigari (1974) and especially Aarsleff (1982)). These works (as well as that of Maupertuis, on possibly Rousseau and Diderot), in addition to the original reading of Locke's *Essay*, are likely to have influenced Turgot and Morellet.



to physiocratic theory, and the history of economic theory generally, Turgot's problem is an interesting one. It seems that he hesitates between two opinions. Does economic theory need to take account of the social and historical specificity of the economic behaviour it studies, or should it attempt to find universal first principles of economic behaviour? This is not the place to discuss this fundamental question. Suffice it to note that Turgot does not appear to reach a final position on the issue.<sup>71</sup> With respect to physiocratic theory, in the *Reflections* he attempts to develop this body of theory by means of a more 'historically' orientated approach. However, in 'Value and Money' he seems to adopt an approach which is even *more* universalistic than the physiocrats (if one judges them by Le Trosne's position).

In any case, the above casts doubt on the interpretation that there is a simple analytical progression between 'Value and Money' and the *Reflections* which anticipates later neo-classical economists (see note 39 above). Undoubtedly there are similarities between the former manuscript and sections 31 and 32 of the latter text.<sup>72</sup> However, Morellet's combination of both contributions casts an interesting light on their possible relation.

In the *Prospectus* he insists on a much more rigorous distinction between the term 'value' in its meanings of 'utility' and of 'exchange value'. In a crucial passage Morellet states:

As soon as exchange is possible, *value* is no more than the expression of the terms of exchange. There is no longer any abstract or metaphysical idea. The *use value* [*valeur d'utilité*] [which is] so difficult to know, this *value*, so to say, interior to the thing, considered, either as an *absolute* and in a sole thing, or as a compared [quality] and between several [things], has nothing to do with it here. That is in the mind of each man the concealed motive of the terms of exchange, [which is] particular to everyone; but it does not enter in the communal notion of *value*, in the language of trade (Morellet 1769:107).<sup>73</sup>

In ms. 2525 the point that '[...] the word *value* expresses nothing but a relation of one thing to

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However, from the fact that Turgot and Morellet may have been influenced by Locke and Condillac, it does not follow that their linguistic philosophies and even less their economic ideas are identical. (For an interesting discussion of the differences between the linguistic philosophies of Condillac and Turgot see Rousseau (1989:349 ff.) See also Militz (1977), Droixhe (1987:40-54), and Coleman (1995:82-108)).

71 This conclusion is somewhat similar to that of Jorland (1987).

72 However, in this context it should be pointed out that the term *valeur appréciative* (or *valeur estimative*) is not actually used in the *Reflections*. This throws some doubt on the interpretation that the term *prix mitoyen* occurring twice in section 32 denotes 'the average of the esteem values', as is argued by Groenewegen (1970:191). By the way, the term *prix mitoyen* is translated by Ashley (1971:30) as 'the price mid-way' and as 'mean price', by Meek (1973a:136) as '[t]he price which represents an average' and 'average price' and by Groenewegen (1977:58) as 'price' and 'mean price'.

73 Schelle (1897:264) is probably the first commentator to favourably contrast Morellet's text to Turgot's paper. While Turgot's views are called 'confused and sometimes erroneous', he praises the 'remarkable precision' of Morellet's contribution. This assessment seems to have gone largely unnoticed. One of the few commentators who picks up on it is Thurlings (1978:124), who, in my opinion, rather spoils the point by arguing that Morellet should be seen as a '[...] forerunner of the contemporary analysis in which subjective and objective rates of substitution are confronted'. Meyssonier (1989:317) argues that Turgot had a more idealistic view of exchange than Morellet, which seems somewhat questionable.

another', i.e., a tangible exchange ratio is made repeatedly. It is not an 'intrinsic' or 'internal quality' [*qualité interne*] ascribed to an object, but an 'exterior relation' [*rapport extérieur*].<sup>74</sup>

Having strictly distinguished between 'utility' and 'exchange value', Morellet continues his 'Digression' by considering 'value' as 'nothing but exchangeability' (Morellet 1769:104 ff). He emphasises that seeing value as a property which is '[...] a simple fact exterior to exchanged things, gives, [...], a great simplicity to the theory of value' (1769:107). Starting with the case of the exchange of two commodities between two traders, he defines exchange value in the following way:

[...] the *value in exchange* [*valeur dans l'échange*] or the *exchange value* [*valeur venale*] of two things, (between only two men) is for each thing its exchangeability against a certain quantity of the other thing (1769:106; emphases in original).<sup>75</sup>

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74 This distinction between exchange value as an exchange ratio and use value as an 'internal quality' seems to be the reason for his remark on the front of the notebook which contains a large fragment of 'Value and Money'. Under the title *Valeur estimative. Valeur appréciative*, Morellet has written the following comment: 'This distinction is M. Turgot's. I disagree. Both types of value are in fact utility, [while on the other hand] price or exchangeable value, is value in exchange' [*cette distinction est de m. Turgot. je ne la trouve pas juste. ces deux sortes de valeurs sont au fond l'utilité et le prix ou valeur venale valeur dans l'échange*] (Ms. 2525,C,1). Morellet also employs a typical linguistic argument in favour of the distinction between utility and exchange value against Turgot. The latter notes that in common speech the ideas of 'value' and 'price' are confused: '[...] the two words *value* and *price*, although expressing fundamentally different ideas, can, without causing inconvenience, be substituted for each other in daily speech, when rigorous precision is not required' (Turgot 1769:146). In contrast, Morellet argues that the fact that people use the term 'value' to denote something else than 'utility' does not indicate that they are confused, but that 'value' has a further meaning. At the point where Morellet's copy of 'Value and Money' breaks off (where Turgot argues that '[t]hus the appreciative value is evidently none other than the average of the esteem values which the two contracting parties attach to each object'[1777:143]), Morellet has written the following comment: In the human language value is not the utility which things have *for the one who exchanges them*, because [otherwise] value would in reality only be the utility relative to a single individual in a single instant, that of exchange, and for a single case. One would have no need for the term 'value' and its synonyms in any language. That of 'utility' would suffice. Nevertheless it has been desirable to denote by the word 'value' something more than the utility or the use which the merchandise can have for the one who buys it or sells it.' (*la valeur dans le langage des hommes n'est pas l'utilité que les choses ont pour celui qui les échange car la valeur ne seroit vraiment que l'utilité relative à un seul individu dans un seul instant celui de l'échange et pour un seul cas. on auroit pas en besoin du mot valeur et de ses sinonimes dans aucune langue. celui d'utilité eut suffi. on a pourtant voulu designer par le mot valeur quelque chose de plus que l'utilité ou l'usage dont peut etre la chose venale a celui qui l'achette ou la vend*' (Ms. 2525, C, 20)). The linguistic argument employed in this passage is typical to Morellet. However, the conclusion derived by means of it can be said to conform to physiocratic thought: 'value' expresses 'something more' than 'utility'. Morellet's expression for this additional quality is 'exchangeability' (see below). The physiocrats agree; Le Trosne calls the same quality 'the means to obtain something in exchange' (see section 2.2 above). Note Morellet's underlining of the phrase 'for the one who exchanges them' in the above passage. From the physiocratic point of view the word 'exchanges' can be substituted by 'sales', i.e. 'value is not the utility which things have *for the one who sells them*'.

75 This definition is intended to express both the objectivity and the relativity of the property of exchange value. The objectivity (or perhaps better: intersubjectivity) is simply based upon the agreement between traders as to a distinct exchange ratio between goods: '[...] when one of two contractants says, I agree to give two skins for three measures of wheat, and at the same time the other, I agree to give three measures of wheat for two skins, [then] at that moment two skins *are worth* three measures of wheat, and three measures of wheat *are worth* two skins. But that word *to value* [*valoir*], what does it want to express other than that two hides are exchangeable, and are to be exchanged against three measures of wheat? According to the hypothesis which

This definition gives rise to the idea of value as an exchange ratio:

From this notion of *exchange value* it follows that it is equal, common, and the same between the exchanged things, since a thing can not be exchangeable or exchanged against another, when the latter thing is not at the same time exchangeable against the former. In a word, *value* is like the *equality* which is reciprocal, common and the same between the two terms of an equation (1769: 109).

This idea is generalised when he allows for exchanges between many traders of many commodities (stage iv)). In that context Morellet observes that

[...] the *exchange value* of each thing is not its exchangeability against one single other thing, but its exchangeability against all those things which are at present the objects of desire and need of man. [...] As soon as one thing is worth another, it is worth all others in a certain quantitative proportion. [...] the value of a thing balances itself, and, in a constant state, brings itself in equilibrium with the value of all the others: [...] the variations of value, which an object experiences, make themselves be felt to all the others' (1769: 111).

These opinions are significant for two reasons. In the first place, both the attempt to see value strictly as an exchange ratio and the approach of first considering the two commodity case and then the multiple commodity case are very reminiscent of Isnard's algebraic analysis of exchange (see section 2.4). Second, Morellet's purely formal account is intended as a preparation of his commodity theory of money. This theory is almost identical to that of Turgot in the sections 30-47 of the *Reflections*. It suggests that Turgot purposefully may have left out his subjective ideas in those sections because they are not *relevant* to his theory of money (for a further discussion of this theory see section 4.4.1).

#### 2.3.4.2 Equal benefit in exchange

To complicate things further, another interpretation suggests itself if one concentrates on Turgot's discussion of the bargaining process between 'two savages' who meet 'on a desert island in the middle of the northern seas' (1769:141). In fact, it is this discussion which has attracted most attention, chiefly because of its resemblance to the theories of pure exchange of the early marginalists. The principal conclusion drawn by Turgot is that both traders will 'benefit equally' from the isolated act of exchange. That is to say, according to Turgot, the extent to which the good obtained is judged by each contractant to be worth more than what is given up is *equal* on both sides.

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we follow, the *value* of hides is thus nothing but their *exchangeability*, the possibility to exchange them against three measures of wheat, and the *value* of three measures of wheat, their exchangeability against two skins, and that is precisely the sense of the word *value* in the language of Trade' (Morellet 1769:106). The understanding of exchange value as a relative property is underlined by the statement that '[i]f there was only one transferable thing in the world, it would not have this type of value [...]' (*ibid.*104).

[...] for each of the contracting parties the esteem value of the thing received is higher than that of the thing given up, and [...] this difference is exactly equal on each side; by taking half of this difference in order to subtract it from the higher value and to add it to the lower value, they are made equal. [...] this perfect equality is precisely the characteristic of appreciative value in exchange (Turgot 1769:143).

Several commentators have noted that this is an 'unacceptable' solution. That is to say, neoclassical theory of pure exchange learns that it is not possible to arrive at a unique exchange rate in the case of isolated trade between two individuals.<sup>76</sup> Faccarello points out that

Turgot assumes a situation of bilateral monopoly, of which we know that there does not exist a unique solution *a priori*. Why can he then determine one and how? It is because the author does not reason in terms of equilibrium at the margin, but determines the final position by average magnitudes. How does he in fact characterise the final agreement? It is, he affirms, a situation in which *the difference between the esteem value of the quantity of the merchandise received and that of the quantity of the thing given up is equal on each side* [...] (Faccarello 1992:275; emphasis in the original).

The conclusion which Faccarello and several other commentators draw from this difference between Turgot's solution and the modern neoclassical notion of the contract curve, is that the former's 'failure' to come up with the 'right' solution is a technical matter. If only he had understood the notion of marginal utility he would not have had to resort to the idea of price as an average of two preferred exchange ratios.<sup>77</sup>

An alternative interpretation is that the fact that Turgot emphasises the notion that the outcome of a free exchange consists of 'equal benefit' for both contractants, indicates that he is concerned with a *different issue* than neoclassical theory. It has to be noted that he expresses the view quite consistently. As was noted, already in the 1753-4 'Plan' (see section 2.3.2) he argues that the '[...] motive [which engages each trader to give up some of his good] can be nothing but an *equivalent advantage*; and he only judges that advantage to be equivalent by the desire which he has for it'.<sup>78</sup> More importantly, in 1770 in the 'Paper on the lending at interest', Turgot explains himself

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76 As Groenewegen (1970:189) remarks, before Edgeworth and Wicksell arrived at this insight, Menger failed to appreciate it. For this negative reason the latter is closer to Turgot on this particular point.

77 Groenewegen (1970:180) notes that Turgot fails '[...] to grasp marginal-utility analysis, since he did not see the significance of the fact that utility is a function of the quantity held'. It may be conjectured that the reason why Turgot did not see this is that he understands 'utility' as an 'intrinsic property' of goods in the sense discussed in notes 59 and 60 above. Consequently, the bargaining process he describes (cf. note 83 below) is not one in which marginal rates of substitution (the utility of a marginal quantity of one trader's good expressed by the marginal quantity of another trader's good) undergoes successive changes. And the actual exchange ratio, the *valeur appréciative* agreed upon by the two traders, should not be understood as a point at which the marginal rates of substitution are equal for both traders. Indeed, it is not even clear whether the exchange ratio arrived at is better or worse than the one each of them had originally 'in mind'. Cf. note 83 below.

78 In the same 'Plan' Turgot writes: 'By only considering a single isolated exchange between two individuals, it is quite evident that the exchange will always be perfectly equal and that neither of the two could be harmed [*lésé*], since the exchanged things can not have another price but the one which the desire of each of the two contractants has given to it and only they can judge about that desire' (Schelle I, 383).

more fully by contrasting his view of equality in exchange to the traditional understanding of the principle of commutative justice.

The [...] proposition [of Aristotle and the Scholastics], that, in every contract, none of the parties can, without injustice, exact more than he has given, has a true foundation; but the manner in which it is put forward entails a false meaning [...]. In every exchange of value against value (...) there is an interpretation of the word *value*, in which the value is always equal on both sides; but this is not at all through a principle of justice, it is because things cannot be otherwise. The exchange, being free on both sides can only be motivated by the preference of each of the contracting parties for the thing he receives over the thing he gives. This preference presumes that each attributes a greater value to the thing he acquires than to the thing he gives up, relative to his individual use and to the satisfaction of his needs and desires. But this difference in value is equal on both sides; it is this equality which causes the preference to be exactly mutual [*réciproque*] and the parties to be in agreement (1770b:155-6).

This passage suggests that, instead of seeing it as an anticipation of the theories of the early marginalists, Turgot's notion of 'equal benefit in exchange' should be seen in the context of a theoretical issue in the natural jurisprudence tradition, namely the specification of the meaning of the principle of commutative justice. Turgot can be said to attempt to explain the 'true foundation' of this principle.

The traditional understanding of the content of this principle may be outlined very briefly. Robert Pothier (1699-1772), a contemporary authority on the natural law of contracts (and Le Trosne's teacher) defines in his *Traité du Contrat de vente* (1765) a contract as being by nature *consensuel*, *synallagmatique*, and *commutatif*. According to Pothier, the third principle expresses the notion that in any contract it is by nature '[...] the intention of each of the contractants [is] to receive as much as he gives' (1765:286).<sup>79</sup> The statement that in exchange each contractant has the 'intention' to receive an equal value, had long been the preferred phrase of natural lawyers to characterise the content of the principle of commutative justice.

As Gordley (1991) argues, the traditional idea of natural law theorists that in an exchange it is the *intention* of both contractants to receive as much as they give, reflects the original meaning of commutative justice as an Aristotelian virtue. This idea was supported by the Aristotelian philosophy of action that there are final causes to the acts of man which define the essence of those acts.<sup>80</sup> This philosophical underpinning, which was elaborated in particular by the late scholastics,

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79 The qualification that a contract is *consensuel* expresses the notion that contracts are 'formed exclusively by the agreement between contractants', and the term *synallagmatique* indicates that contracts 'contain a reciprocal engagement of each of the contractants' (1765:286).

80 Gordley argues that in particular the later scholastics provided metaphysical foundations to the natural law of contract which are radically different from modern contract theory. This Aristotelian approach may be sketched very briefly. The 'substantial form' or 'essence' of a contract (like any human action) is defined by the end, or 'final cause', of the contractant. This end is not simply the stipulation of terms which are the most favourable to the individual trader. In the Aristotelian approach the contractant aims at a virtuous ordering of social relations. The *virtue* of commutative justice which rules commercial transactions should be seen in this light. When exchanging goods the virtuous contractant either aims to be charitable (the virtue of 'liberality')

started to disappear from the work of influential natural lawyers of the 17th and 18th century, like Grotius, Pufendorf, Barbeyrac and Pothier. By and large these latter writers do still affirm that it is the *intention* of both contractants to 'receive as much as they give'. However as Gordley notes 'these authors, [...], reproduced the solutions of the late scholastics without reproducing their analysis, and perhaps without understanding the concepts on which it was based' (Gordley 1991:90).<sup>81</sup>

Turgot may be said to provide an original analysis of how commutative justice is established in free exchanges. He argues that the 'fact' that '[...] value is always equal on both sides' is not established '[...] through a principle of justice, [but] because things cannot be otherwise'. His discussion of exchange in 'Value and Money' can be seen as an attempt to demonstrate this view. Giving a similar interpretation, Hervier (1997:86) has recently emphasised the mechanistic nature of Turgot's account. He argues that the latter tries to describe a *mécanique des désirs* and that Turgot's discussion should be seen as '[...] a positive theory of just exchange' (1997:105).<sup>82</sup>

In 'Value and Money' Turgot indeed stresses the idea that traders 'scrupulously weigh' the

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or to receive as much as he gives (the virtue of 'commutative justice'). The 'essence' of a contract is thus defined by the conscious purpose (or 'causae', 'final ends') of the contractants. As Gordley (1991:77) notes, this distinction '[...] meant more than the tautology that a party either does or does not get something when he gives [...]. Liberality for Aristotle, does not simply mean giving wealth away, but giving "to the right people, the right amounts, at the right time". Commutative justice does not simply mean that the parties exchange, but that they exchange so that neither party is enriched at the expense of the other [...]'.

Thus in the Aristotelian tradition 'equality in exchange' is not something which occurs 'automatically', but something which is intended by virtuous contractants. For example, Aquinas writes: 'Purchase and sale are seen to have been introduced for the common utility of both parties, since one needs the goods of the other; and so the contract between them ought to be established according to an equality' (Summa II-II, Q. 77, art. 1; quoted in Gordon (1975:174)). In this substantialist approach to commercial interaction, what is 'in the nature' of contracts is conditional upon the perception of what the ends of virtuous man are. This eventually depends on the philosophy of the nature of man. In Aristotle's case the end of man in society is to be a virtuous citizen. See Lewis (1978). For Aquinas it is to be a good christian. See Parel (1979). Both writers see commercial relations as potentially dangerous ('corrupting' or 'sinful') influences of man's spiritual well-being.

81 Grotius took over the idea from the scholastics that in onerous contracts it was the *intention* of the contractants to benefit equally. He writes: '[...] it is not enough to say that what the other party has promised more than equality is to be regarded as a gift. For such is not the intention of the contracting parties and it is not to be presumed so, except it appear' (Grotius *De iure belli ac pacis libri tres* II. xii.ii.i; quoted by Gordley 1991:110). Pufendorf (1673:97) equally states that '[a] requirement of all onerous contracts is that equality should prevail in them or that both contracting parties should receive equal benefit'. Grotius and Pufendorf are commonly seen as the greatest authorities in the modern natural law tradition, in which in contrast to the scholastics it was attempted to formulate a 'minimalist core of universal moral principles' (Tuck 1987:117). The modern natural law theorists are understood to have rejected Aristotelian metaphysics according to which human actions exhibit inherent moral properties defined by their final ends (cf. Haakonssen 1985:54; Tuck 1987:102; Gordley 1991:115). If this is so, it hard to see on what general moral principle their definition is based that onerous contracts are exchanges in which both parties benefit equally. Hobbes draws this conclusion by arguing that commutative justice is not a principle of natural law at all. In *Leviathan* the notion of '[...] equality of value of the things contracted for' is dismissed out of hand. 'As if it were Injustice to sell dearer than we buy; [...] The value of things contracted for is measured by the Appetite of the Contractors: and therefore the just value, is that what they contented to give [...]' (Hobbes 1651:208).

82 The term *mécanique des désirs* is used by Turgot in his 'Plan' (Schelle 1913-23, I, 380).

'intensity of the two needs, of the two interests which he balances, one against the other, to wit, the interest of keeping corn and that of acquiring wood, or of keeping wood and acquiring corn' (1769:142). The automatic (*i.e.*, unintended) result of the confrontation of the two esteem values or 'mental evaluations' [*évaluation mentale*], is that the traders end up agreeing on an exchange ratio at which both benefit equally:

[...] this difference in esteem value is reciprocal and precisely equal on each side; for if it was not equal, one of them would be less desirous of the exchange and he would force the other to come closer to his price by a better offer. It is thus always exactly true that each gives equal value to *receive equal value*. If four measures of corn are given for five armfuls of wood, five armfuls of wood are also given for four measures of corn, and consequently, four measures of corn are equivalent to five armfuls of wood in this particular exchange. These things thus have equal exchange value (1769:142-3).

The argument which Turgot uses here in support of his opinion that the two traders will divide the benefit of the exchange equally seems to rely on an assumption of equal bargaining power and is rather weak. Moreover, the numerical example with which he attempts to illustrate his view seems wrong.<sup>83</sup> However, despite these difficulties to prove his point it is clear that Turgot is of the

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83 Many commentators have, with various degrees of plausibility, tried to make sense of Turgot's numerical example. In this example the initial position of the two traders is that '[...] the one would exchange three measures of corn for six armfuls of wood, the other would give him six armfuls of wood only for nine measures of corn (1769:142) ('[...] *l'un changeroit trois mesures de maïs pour six brasses de bois; l'autre ne voudrait donner ses six brasses de bois que pour neuf mesures de maïs*'. Hervier (1997:87-8) insists that the possessive 'ses' is highly significant, since it shows that the first person is the corn owner and the second the wood owner). The final exchange ratio, or 'appreciative value' is four measures of corn for five armfuls of wood. This example poses two problems. First, it appears to contradict Turgot's contention that both traders gain in the bargain. If the initial positions are to be interpreted as *valeurs estimatives*, then the 'corn owner' ends up receiving 5 armfuls of wood for 4 measures of corn while he 'esteemed' 3 measures of corn to be worth as much as 6 armfuls of wood. And the poor wood owner who ends up receiving 4 measures of corn for 5 armfuls of wood, 'esteemed' 6 of his armfuls of wood to be worth 9 measures of corn. As Hervier (1997:88-91) points out, two solutions to this problem have been proposed. Some commentators assume that Turgot made the (rather elementary) mistake of reversing the esteem values of the two traders. Once this mistake is corrected it is clear that both traders gain in the exchange. The owner of wood thought 6 armfuls of wood to be worth 3 measures of corn, and he ends up getting as much as 4 measures of corn for 5 armfuls of wood; the owner of corn, for his part, thought 9 measures of corn to be worth 3 armfuls of wood, but he ends up receiving as much as 5 armfuls of wood for 4 measures of corn. It has to be noted that several commentators do not state that they have actually made this 'correction' to Turgot's example. In some cases it is can even be asked whether the correction is noticed. For instance, Desai (1987:191-2) insists that Turgot 'discovered' the 'idea of the core' a hundred years before Edgeworth. He accuses Meek of having been 'unaware of the idea of the core' and ridicules the latter's conclusion that Turgot was not 'conspicuously successful' (Meek 1973:79). An alternative solution to the 'reversed esteem values' is to argue that the initial positions of the two traders are not their esteem values, but their first bids, or 'minimum acceptable price' (Jaffé 1975:381 n.2). This interpretation is supported by Turgot's remarks that the traders keep their esteem values 'secret' from each other, that they 'sound out' each other 'by lower offers and higher demands' (1769:142). If one instead considers the initial ratios as negotiating positions (keeping the real esteem values hidden), one can imagine the following dialogue:

Corn owner: 'If you give me 6 armfuls of wood, I will give you 3 measures of corn'.  
Wood owner: 'Let me tell you that you will only get 6 armfuls of my wood, if you give me 9 measures of corn'.  
Corn owner: 'That is steep. Okay I will give you 4 measures of corn for 6 armfuls of wood'.

opinion that in free exchanges 'perfect equality' is necessarily established with respect to the benefit to each contractant. Why would Turgot insist on this point? The most likely answer seems to be that Turgot sees his 'demonstration' as an argument in favour of the freedom of contract.

This interpretation is supported by what Le Trosne says. Interestingly, Le Trosne also expresses the opinion that in exchange there is typically 'equal gain' for the contractants. The first time he puts forward this view is in the *Journal d'agriculture* in July 1766.<sup>84</sup> Responding to an (unfortunately untraceable) 'Mr. X', he first maintains that in exchange there is neither gain nor loss, and that the only effect of exchange is that goods of equal value change of owner.<sup>85</sup> His opponent, on the other hand, argues that

[t]he preference [of each trader for the merchandise of the other] alone indicates that in the opinion of the barterers [*troqueurs*] there is no equality of the value of the exchanged things (Le Trosne 1768b:121)

To this Le Trosne responds:

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Wood owner: 'I will take your 4 measures, but for 5 armfuls of wood'.  
Corn owner: 'Alright'.  
Wood owner: 'It's a deal'.

In the first place, this interpretation (the 'Kauder-Jaffé solution' according to Hervier (1997:88)) has the merit of being a quite realistic sequence. The corn owner gives a little way after hearing the initial bid of the wood owner; the wood owner tries to get a further concession; a deal is struck. Second, and more importantly, it seems to be the only way of arriving at the final exchange ratio given by Turgot. Of course, it is a wholly unsatisfactory reading if one is only interested in finding a subjective analysis of exchange. All subjective considerations of the traders are hidden in this account (*i.e.* a third savage could have reported the above conversation). A further problem with Turgot's example (if the first interpretation is followed according to which the initial positions are 'esteem values') is that it is hard to see how Turgot arrives at the final exchange ratio 'four measures of corn for five armfuls of wood'. As Groenewegen (1970:189) notes, if the appreciative value is to be obtained by taking the average of the two esteem values then one would expect the price 1 measure of corn for 1 armful of wood. At least, this is the case if one uses corn prices (the corn owner's corn price for wood being 1/2 and the woodowner's corn price for wood 1 1/2). However if wood prices are used (the corn owner's wood price for corn being 2 and the wood owner's wood price for corn being 2/3) then the appreciative value one would expect is 4 armfuls of wood for 3 measures of corn. Either way, whether one prefers the exchange ratio 1:1 or 4:3, neither gives Turgot's exchange ratio 5:4. Desai (1987:195 n.1) suggests that '[t]here is an alternative way to arrive near Turgot's solution which is to take a geometric average of 2 and 2/3 which yields  $\sqrt{4/3} \approx 1.17$  [sic.] which is close to  $5/4 = 1.25$ . So it may be that his was a geometric average [rather] than an arithmetic average'. Hervier (1997:99) argues that Turgot may have taken an average of 4/3 and 1/1 which is 7/6 or 1.17, which is close to 1.25. These calculations seem rather speculative the more since they do not yield Turgot's exchange ratio. All this is rather bothersome and does not shed much light on Turgot's intentions. However, it reflects the very unfinished state of 'Value and Money'. Instead of concluding that despite its technical flaws the text is '[...] a remarkable performance for an eighteenth-century economist' (Groenewegen 1970:189), it can be suggested that the performance was probably far from good enough for a Turgot to have it published.

84 That Turgot was an attentive reader of Le Trosne's articles is suggested by his question to Dupont in a letter dated (1/12/1769): 'Has M. Le Trosne lost his fertility? He used to contribute so many things to the *Journal de Commerce*'. This suggests that Turgot may well have been familiar with Le Trosne's argument.

85 '[Through exchange] one varies one's enjoyments, but one can not enrich oneself by that means, because one gives the equivalent of that what one receives, and the equality excludes any idea of loss or gain' (Le Trosne July 1766, reprinted in Le Trosne (1768b:212)).



On the contrary, as soon as *this preference in choice* is reciprocal everything is equal both in the intention and in the fact, each has made a *good bargain*, because he [now] has what he preferred, and an *equal bargain* since he has acquired in return an equal value (*ibid.* emphasises in original).

The second time that Le Trosne puts forward this view is in his rebuttal of Condillac in *De l'intérêt social*.<sup>86</sup> It should be noted that in both cases Le Trosne distinguishes between two elements of the bargain. The second element he mentions, is that of the actual exchange ratio (the 'fact'). Here there is equality, in the sense that each receives an *exchangeable value* which is not more or less than what he gives up (cf. p.23 above). In contrast, the first element is the subjective experience or 'intention' of making a 'good bargain' (*un bon marché*). Le Trosne acknowledges that in an exchange each trader typically obtains a thing (a *use value*) which 'he preferred' over what he gives up. More specifically he argues that this benefit is equal on both sides.

An interesting comment on Le Trosne's argument in *De l'intérêt social* is made by Marx. He rephrases the former's position with respect to the gain in terms of utility in the following manner:

If both the persons who exchange receive more to an equal amount, and part with less to an equal amount, they both get the same (Marx 1867, I, 157 n.2).

Marx does not take this particular point of Le Trosne serious.<sup>87</sup> His reason seems to be that even though it may be admitted that typically traders will only exchange if they believe to make a 'good bargain' (that they obtain a preferred use value), this is by no means identical to saying that the advantage is in any sense 'equal'. None of the other physiocrats seem to hold this additional opinion.

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86 Responding to the latter's idea that in exchange each contractant always receives a greater value than what he gives up, Le Trosne almost literally repeats his earlier position in the *Journal d'agriculture*. He states '[...] if each of the parties receives more than she gives, it follows that they trade with equality and that there is neither loss nor gain. Because as soon as the preference is reciprocal everything is equal both in the intention and in the fact; each is pleased, since they have that what they desired; and each made an equal bargain, since they have in return acquired an equal value (Le Trosne 1777b:904). The last sentence reads in French: '*En effet, dès que la préférence est réciproque, tout est égal dans l'intention comme dans le fait; chacun est content, puisqu'il a ce qu'il avait désiré; et chacun a fait un marché égal, puisqu'il a acquis moyennant [sic] une valeur égale*'. In 1766 the formulation is nearly identical: '*Au contraire, dès que cette préférence dans le choix est réciproque, tout est égal dans l'intention comme dans le fait, chacun a fait un bon marché puisqu'il a ce qu'il avoit préféré, & un marché égal puisqu'il l'a acquis moyennant une valeur égale*'. Condillac takes the passage as an admission that his own position is the right one. In a passage, which was added in the posthumous second edition (1798) of *Le commerce*, he responds to Le Trosne's statement: 'The advantage [in exchange] is reciprocal, and it is without a doubt that which makes that it has been said that they [the contractants] give each other equal value for equal value. But they [*i.e.*, Le Trosne] have been little consistent, since precisely because the advantage is reciprocal, one should have concluded that each gives less for more (Condillac 1776:255-6). This ignores the point that the physiocrats generally acknowledge that exchange is beneficial in the sense that both parties typically obtain a preferred use value (see above section 2.2).

87 He assumes that Le Trosne is 'bantering' Condillac (*er neckt ihn*). Note that Marx' rephrasing of Le Trosne's position describes that of Turgot rather well too. It is not clear whether Marx read 'Value and Money', but he was familiar with the Daire edition of Turgot's works.

“ It is nevertheless maintained by Le Trosne and by Turgot.

Both men seem to be inspired by the notion of the natural lawyers that it is the subjective ‘intention’ of contractants to receive as much as they give. In 1768 Le Trosne, a former student of Pothier, gives the following definition of exchange:

Exchange is an agreement which is concluded by the confrontation of two wills [*le concours de deux volontés*] of which each stipulates in his own interest, and has the sole right to stipulate vis-à-vis the other contractant (Le Trosne 1768a:104).<sup>88</sup>

He notes that the ‘sole right’ of contractants to ‘stipulate in [their] own interest’ is the immediate consequence of the exclusive nature of private property.<sup>89</sup> Now, if contractants pursue their own interests, what ensures that an agreement between them embodies ‘equality in the intention’? It seems clear that to Le Trosne, like in Turgot’s case, the term ‘intention’ does not mean that it is the *conscious aim* of the contractants to benefit equally from the exchange (as was the case in the late scholastics). Instead, he suggests that the equality is brought about by *involuntary* forces.

Unlike Turgot, Le Trosne does not attempt to demonstrate his opinion by considering an act of isolated exchange. Instead he appeals to the idea that in the ‘state of full competition’ the large number of traders assures that no one can benefit at the expense of anybody else.<sup>90</sup> To some extent this solution can be said to draw on the traditional positions of natural lawyers that the ‘just price’ of commodities is defined by the *communis aestimatio*. However, there are two differences. In the first place, earlier writers see the *communis aestimatio* not as a unique price, but as a more or less precise ‘guideline’ for contractants. In keeping with this view, Pothier notes:

Since things do not always sell precisely for the same sum, but *circum circa*, [for] more or less, the just price of things does not consist in a fixed and indivisible point, like the prices which are imposed by the magistrate [*juge de police*]. Instead there is a certain range [*étendue*]; [...] the parties may well debate about the price provided they stay within the range of that just price (Pothier 1765:342).<sup>91</sup>

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88 Cf. Pothier (1765:291): ‘*Le consentement des parties contractantes, qui est de l’essence du contrat de vente, consiste dans le concours de la volonté du vendeur, de vendre telle chose à l’acheteur pour un tel prix, et de celle de l’acheteur d’acheter de lui ladite chose pour ledit prix*’.

89 ‘Property is exclusive by its nature; she gives to the one who possesses it the right to dispose of the thing sovereignly, and to do with it whatever he likes [...] The freedom of exchange derives from property’ (Le Trosne 1768a:101, 103).

90 In 1777 he argues that one of the rights which man possesses in the social state is: ‘[...] to oblige himself to others and to oblige others to him through agreements, to buy and sell in a state of full competition [*l’état de pleine concurrence*]’ (Le Trosne 1777a:41). Somewhat paradoxically Le Trosne maintains that in the social state man enjoys the freedom of contract which allows him to ‘stipulates in his own interest’ and at the same time that in that state the terms of exchange are beyond the control of any single individual. See also Le Trosne ‘*Dissertation sur le tort que les exclusions causent au commerce*’, *Ephémérides* October 1766:219.

91 He proceeds to describe this range as consisting of an upper limit, or *pretium summum*, and a lower limit, or *pretium infimum* which ly on either side of an average *pretium medium* (1765: 342). Only when the contractants try to go beyond these limits they violate commutative justice. However, he points out that when this happens, it only has moral but no legal consequences. ‘That principle is only valid in the conscience [*le*

Le Trosne does not seem to be satisfied with this 'range'. He argues that competition 'adopts and expresses the general judgment' of the prices of commodities precisely (1777b:907). It is true that

[t]he frequent variations in the causes of value could tomorrow change something about that result; but it is such today and forms the law of current prices. *There hardly remains any interval from more to less expensive, within which the parties dispute and debate with each other* (*ibid.* emphasis added).

What Le Trosne seems to be saying is that the normal market price is not merely a guideline for the terms of exchange in individual exchanges. Free competition provides a near perfect estimate of the 'just price' (*ibid.* 892) of things.<sup>92</sup> Only by following this estimate can exchange be judged to obey commutative justice.

Second, and related to this, the civil authorities can not improve on this judgement. While earlier writers generally take the view that the common market price can be accepted as the just price, they never seriously question the right of the public authorities to interfere.<sup>93</sup> In contrast, Le Trosne insists that the authorities do not have this right. Or rather, since the freedom of exchange derives from private property rights, and market price are the result of a multitude of free exchanges in a 'state of full competition', any government interference in prices amounts to a violation of property rights.<sup>94</sup>

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*for de la conscience*], it is not followed in court [*le for extérieur*]. A buyer is not normally rewarded in the latter when he complains that he has bought at a higher price than the just price, since it is in the interest of trade that the parties are not easily allowed to reconsider their bargains' (*ibid.* 343). Cf. Pufendorf (1673:95) who argues that in states the 'common price' of things is determined by '[...] men's common valuation and assessment, or by the usage of the market together with the consent of those who are dealing with each other. [...] the common price, which is not set by law, has *some latitude* within which more or less may be and normally is offered and accepted, following the agreements of the parties doing business. It does however follow fairly clearly the usage of the market'.

92 It is very hard to believe that the use of the term *juste prix* is unintentional. Le Trosne is too well schooled in natural jurisprudence to create the impression that the competitive price is the just price unwittingly.

93 Cf. De Roover (1951:331); Gordon (1975:258-9); Langholm (1982). According to Gordley (1991:98) this was so because if the public authority interfered, it was understood to be '[...] merely substituting its own judgement about the prices that best reflected need, scarcity, and cost for the *communis aestimatio* of buyers and sellers'.

94 Le Trosne uses this argument in concrete as well as general cases. An example of the former is the following remark: 'Today, now that all the prohibitions to Trade have been lifted by the Declaration of 1763, it is evident that the Magistrate can only renew them by a manifest abuse of authority. Therefore all administrators [*juges de police*] who continue their inspections and who interfere by regulating Trade, violate at the same time the great Law of property and civil Law, which ordonates the observation of this first Law. What qualification merits such conduct !' (Le Trosne 1768a:103 n). This specific opinion is based on a *laissez-faire* attitude which is solidly founded on Le Trosne's jurisprudential convictions. See for example the following passage which could have been written by Adam Smith: 'What should the sovereign authority do with respect to the [property] rights [of individual citizens]? On the whole nothing but leaving the citizens to enjoy them [*i.e.*, those rights] without interference, and [for the rest] understanding that whatever they do with only their interest in view, is the most advantageous thing they can do for society, and that she [*i.e.*, the state] can do nothing which is more unjust, and unfortunate at the same time, than willing to restrain their liberty to direct their faculties, their properties, their industry, to regulate trade etc.' (Le Trosne 1777a:41). Le Trosne flawlessly

It are essentially the same two points which are made by Turgot. It is his opinion too that the freedom of contract derives directly from the private property rights of the contractants in their merchandise.<sup>95</sup> He also insists on the perfect reciprocity which is established in free exchange. Admittedly, he "demonstrates" this point quite differently by analysing an isolated act of exchange. However like in Le Trosne's case, Turgot's discussion can be seen as a radical position within an old jurisprudential debate about the content of the notion of commutative justice. Like Le Trosne, he draws the conclusion that the authorities do not have the *right* to alter the terms of exchange which free traders agree among themselves.<sup>96</sup>

In all this the *economic analytical* validity of the specific argument of 'equal benefit' in exchange can be seriously doubted. But this does not make the discussion of this section less relevant for understanding the economics of Turgot and Le Trosne. In the first place it neatly illustrates how their economic theories emerge as applications of a specific reading of earlier positions in the natural jurisprudence tradition.<sup>97</sup> Second, in Turgot's case his discussion of the automatic establishment of equality in exchange is relevant to his theory of interest which also has clear jurisprudential overtones (see section 7.3.5 below). Finally, it has to be noted once more that the discussion of the last two sections can not be conclusive. Turgot never fully worked out his fundamental ideas on value and exchange. What he writes in his manuscripts (and the same is true for Morellet) has to be handled with care.

## 2.4. Isnard's theory of exchange

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applies these moral convictions to the property of merchants (see section 4.2 below) and the property of workers (*i.e.*, their own person; see section 6.2.1).

95 On 20 February 1766, Turgot writes to Dupont: '[...] the principle of competition and of the freedom of trade is an immediate consequence of the right of property and the exclusive faculty which each individual has to know his own interests better than anybody else. This sole principle led M. de Gournay, starting from the merchant's store [*comptoir*], to all the same practical results at which our Doctor has arrived starting from the plough'. Also '[...] the complete liberty of all commerce is a corollary of the right of property' ('Letter to Doctor Price' 1778; quoted by Hervier 1997:81). Interestingly enough, both the more extreme liberal credentials of Gournay and Quesnay have been doubted by modern commentators (for Gournay see e.g. Murphy (1986a), Larrere (1992:137-44); Steiner (1994:214-15); for Quesnay see Vaggi (1987:111), which is more credible than the extreme illiberal views ascribed to Quesnay by Hutchison 1988). Perhaps it can be said that the real distinction here is not between Gournay and Quesnay, but between these older men and the younger generation of their followers, like Turgot, Morellet, Dupont and Le Trosne. The latter group's *laissez-faire* convictions have of a more doctrinaire character.

96 In his 'Plan' Turgot expresses the opinion that '[...] keeping [the current price of foodstuffs] low in favour of the buyers, is for a start committing an injustice, because why favour the buyer rather than the seller? Do they not all contract equally with their property, the one of his merchandise, the other of his money: are they not equal in the eyes of the law and the magistrate?' (Schelle 1913-23, I, 384).

97 In the larger context of the history of the discipline this is not irrelevant. The jurisprudential notion of *commutative justice* may have crucially influenced Léon Walras (see Jaffé's interesting 1977 and 1980 articles). In this particular respect there may be an affinity between Turgot (and Le Trosne) and Walras after all.

Compared to the complicated positions emerging from the manuscripts of Turgot and Morellet, the interpretation of Isnard's analysis of value and exchange in the *Traité des Richesses* is a more straightforward matter. Isnard too starts his discussion of exchange by briefly considering an act of isolated exchange between two individuals. He writes

[i]t is easy to see what would happen in an exchange between two isolated proprietors of two commodities, when the need for the surplus [*superflu*] of the one is equal to the need for the surplus of the other. If one supposes, for example, that the surplus of the first is a quantity  $a$  of measures  $M$  of one commodity, and that that of the second is a quantity  $b$  of measures  $M'$  of the other; these goods can only be exchanged against one another since they are supposed to be the only ones available, [therefore] quantity  $a$  of measure  $M$  will be equal to quantity  $b$  of measure  $M'$ : thus we will have  $aM=bM'$ , and consequently  $M:M' :: \frac{1}{a}:\frac{1}{b}$

The value of each unit will thus be in inverse ratio to the quantity of units which is offered for exchange (Isnard 1781,I,18).

The main difficulty with this passage is that Isnard does not provide an economic justification for his assumption that '[...] the need for the surplus of the one is equal to the need for the surplus of the other'. In 1878 Léon Walras himself is hinting at this difficulty. At the same time as praising Isnard for adopting the equation of exchange as 'the starting point of the scientific theory of social wealth', he points out that that equation is '[...] by no means fully or deeply considered by the author'.<sup>98</sup> A similar view is taken by later commentators. Baumol and Goldfeld (1968:253) comment rather curtly that '[t]he use of fixed and unexplained quantities offered in exchange for other items [...] [is] typical of the crudity of the early works in mathematical economics'. Jaffé (1969:27) argues, more speculatively, that '[i]n Isnard's model, the aggregate quantities exchanged ( $a$  and  $b$  in the two-commodity case;  $a, b, c, d \dots$  in the multicommodity case) are constants, predetermined by considerations of utility behind the scenes, as it were'. Because of this supposedly unarticulated utility theory, Hébert (1987:1004) argues that the real task '[...] remained for Walras to add the engine of utility maximization' to Isnard's equilibrium analysis.<sup>99</sup>

In fact, however, one is very hard pressed to find any suggestion in Isnard's text that the quantities  $a$  and  $b$  in the isolated exchange case are determined by 'utility considerations behind the scenes', conceived in whatever manner. There is no mention of the 'mental evaluation' which Turgot assumes to occur prior to the bargaining process in 'Value and Money'. Indeed, there is no

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98 In an article in the *Journal des économistes* in December 1878, which is an extended version of Jevons's list of early works in mathematical economics, Walras writes: 'In the early pages of this book [Isnard's *Traité*], ratios of values are correctly stated in algebraic symbols as equal to the inverse ratios of the quantities of commodities exchanged. The equation of exchange, though by no means fully or deeply considered by the author, remains nevertheless, the starting point of the scientific theory of social wealth. Despite its inadequacies, this equation is enough to effect, within certain limits, the transformation of theoretical political economy into a mathematical science' (Walras, cited in Jaffé 1969:25).

99 Hébert takes over the phrase 'utility maximizing engine' from Jaffé (1969:29).

“bargaining at all. Each party just puts the quantity it has to sell ‘into the balance’ and the exchange ratio is the result. One can of course argue that this shows the inadequacy of Isnard’s theory of exchange. An alternative interpretation is that his neglect of the bargaining process reflects the fact that his approach to the issue of value and exchange is close to that adopted by Le Trosne and the physiocrats generally.

Several facts support this interpretation. In the first place, any serious consideration of the ‘economy of isolated man’, who produces for his own consumption is conspicuous by its absence. Such a hypothetical state is briefly addressed, and promptly dismissed, in a manner strongly reminiscent of the first sections of Turgot’s *Reflections*. Isnard argues:

Under the extreme supposition of equality or of the equal division of land, the word *wealth* is hardly known; expenditures are limited to subsistence goods; each works for himself; there is only a little trade and exchanges, or none at all; everyone having a [own] plot of land for cultivation, cultivates *the things which are proper to his needs* (I 54; second emphasis added).

This state of society, if it were ever to be created, would not last: ‘[...] the natural forces of man and the variations in produce [due to] nature would promptly destroy the chimera’ (I, 55).<sup>100</sup> One can recognise in that statement the ‘technical’ and ‘physical’ argument Turgot uses to explain the social division of labour.<sup>101</sup> Moreover, the opinion that outside society man would produce ‘the things which are proper to his needs’, but that ‘wealth’ [*richesses*] would hardly be known, can be said to be a common physiocratic position (cf. section 2.2 above). It can be read as “outside (market) society things are merely ‘goods’, (*i.e.*, ‘use values’ capable of satisfying someone’s needs), but within society they become ‘wealth’” (*i.e.*, goods purposefully produced to be exchanged). This reading is confirmed by the following lucid passage, in which Isnard distinguishes between ‘use value’ and ‘exchange value’:

Homogenous things are compared by their quantities or their size; but in order to compare heterogeneous things,

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100 Note that Isnard does not assume that the situation in which each person has his own plot of land producing for his own needs, has ever existed. It is a purely hypothetical case. His general views of the relation between man and society fully support this position. To Isnard, man is by nature a social being. ‘The physical and moral faculties of man render him social; a kind of instinct keeps him in society long before he has enough mental power and knowledge to draw up the laws which are necessary to the conservation of the social order’ (I, 2). His views are reminiscent of those of Pufendorf and later natural lawyers in his rejection of the Hobbesian state of nature. ‘In the state of nature and the state of war, the right of everyone extends to everything which is suited to him, *everything is right, everything is proper*; but if in those states the right [*droit*] of man is the same thing as what is right [*propre*] to him, it is not so in society; [...] The right of the isolated man [*l’homme seul*] differs from the right of the social man [*l’homme social*’ (I, 3). While this distinction between ‘isolated man’ and ‘social man’ has primarily a jurisprudential significance, it is likely that, as in Le Trosne’s case, there are also economic theoretical consequences for Isnard’s theory (cf. note 5 above).

101 To be accurate, Isnard uses the argument not explicitly in a discussion of the origin of the social division of labour. He uses it in the context of a refutation of writers like Rousseau who argue that the inequality of possessions in society are not ‘natural’.

one has to find between them some relation of homogeneity, that is to say, to find some homogeneous qualities. Useful things are very heterogeneous; [but] in exchange they acquire relations which we want to know. When one considers useful things with the purpose of comparing them they are called wealth [*richesses*], like things in general are called magnitudes when one considers them with the purpose of comparing them. The words wealth and magnitude are in discourse often used to express useful things, or things in general; however those words can not be the absolute expression of real things [*choses réelles*], useful things stop being wealth when their relation [of exchange] is annulled (I, 16).

Like the strict distinction between 'useful things' and 'wealth', Isnard's definition of exchange value is also strongly reminiscent of Le Trosne. Isnard asserts: '[t]he word value expresses [...] the ratio between two things which are compared to be exchanged' (I, 17).<sup>102</sup>

The qualification of the utility of things as being 'heterogeneous' (and 'absolute') is interesting. It can be argued that it expresses Isnard's opinion that with respect to their physical characteristics (or, more particularly, those physical characteristics which make them suitable to man's needs and desires),<sup>103</sup> 'things' [*choses*] are *incommensurable*. This, in turn, reflects the perception that man's various needs and desires are to a large extent incommensurable. This position is not unintelligible.<sup>104</sup> However, it would seem to pose serious obstacles to the interpretation that Isnard is a precursor to neoclassical general equilibrium theory as suggested by Schumpeter (1954) and Jaffé (1969).<sup>105</sup> Isnard may even be said to decline, quite consciously, any attempt to express the different utilities of goods on a 'single scale'.<sup>106</sup>

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102 In a footnote to this definition he specifies: 'When speaking of wealth, the word value is hardly taken in an absolute sense. The word which properly expresses the absolute meaning which could be given to it is utility'. Isnard thus distinguishes between 'utility' as an *absolute* quality and 'exchange value' as a *relative* property. Jaffé (1969:27 n.27) suggests that Walras adopts this distinction from Isnard. Walras writes: '[...] the distinction between value in exchange, which is *relative* and *objective*, and rareté, which is *absolute* and *subjective*, is a rigorous expression of the difference between *value in exchange* and *value in use*' (*Elements of Pure Economics*, p.178, n.1; quoted by Jaffé). Cf. note 106 below.

103 'Man knows the qualities of things through the impressions which he receives or through the effects which they produce, and of which he receives the impressions' (I, 13).

104 It seems reasonable to assume that an apple can be used to eat, and possibly in crossbow exercise, but not to build a house. Also, it seems unreasonable to compare an apple and a chair with respect to their suitability to sit on. That is to say, with respect to their suitability to satisfy a particular human need or desire ('utility') goods are often incommensurable.

105 It has to be again emphasised that it is well possible that Isnard's work influenced Léon Walras. However, here an attempt is made to understand Isnard's ideas in their own terms.

106 Isnard argues: 'One can not say that the offers [*i.e.*, demands; see section 4.3.2 below] are relative to the qualities which are desired, since those qualities are heterogeneous; [...] one can not compare heterogeneous qualities by their quantities' (I, 20). This somewhat obscure statement makes sense as a criticism of Graslin's theory. The *Essai analytique* is cited on page 172, volume I of the *Traité* (in the context of the question whether the use of machinery in production should be promoted). It is possible that Isnard adopts the adjectives 'absolute/relative' from Graslin. However, unlike Isnard, Graslin radically opposes the physiocratic distinction between 'richesses' and 'biens'. As was discussed in note 62 above, Graslin believes to be able to quantify the intensity of various needs, and corresponding utilities of various objects as fractions on a single scale. He presents several calculations and two tables to illustrate his ideas. It may be conjectured that Isnard will have been particularly interested in Graslin's algebraic ratios. His rejection of these obscure calculations is significant. What Isnard seems to reject specifically is Graslin's idea that there are absolute and quantifiable proportions between different 'kinds of needs' of man. At least this seems the likely meaning of his statement

The qualification of 'wealth' as being, in contrast, a 'homogeneous' property, is pertinent to his algebraic analysis of exchange.<sup>107</sup> In this exercise Isnard understands the term 'value' strictly as a quantitative property. Conceptually, there are two aspects to his equations of exchange. On the one hand there are physical quantities (use values); on the other hand, there are ratios of exchange between those quantities (exchange values). Following the physiocrats, it may be said that together the two aspects constitute the concept of 'wealth'. Indeed Isnard acknowledges that he follows the physiocrats, by pointing out that '[...] according to their own principles [*i.e.*, those of the *économistes*] about the freedom of exchange [...] it is in exchange that values are determined [...]' (I, 41 n; cf. II, 10).

These remarks are important to bear in mind when one considers the contribution for which Isnard is most well-known, his algebraic analysis of market equilibrium on the pages 18 to 22 of volume I of the *Traité*. There Isnard considers exchange in two steps. First he considers a simple value relation between two commodities, then he generalises his analysis to many commodities. By itself this two-step approach is reminiscent of that of Morellet in the 'Digression'.<sup>108</sup> What is more,

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that '[...] one can not compare heterogeneous qualities by their quantities'.

107 It is interesting to note that the pair homogeneous-heterogeneous is used in a strict mathematical sense by Euler in *Introductio in analysin infinitorum* (1748 see especially vol. I, paragraph 83). This is relevant since Isnard uses an illustration to paragraph 110 ('On Exponentials and Logarithms') of that same volume to calculate the growth capacity of the French population (see section 6.5 below). Nevertheless, it seems clear that Isnard uses the analytical pair in an economic sense not intended by Euler. In this context it is interesting to note that there is one passage in Morellet's manuscript 2525A:11 where the same pair is discussed. Developing the idea that value is nothing but a ratio between things, he comes up with the following reflection: 'Value also differs from the abstract and mathematical ratios of magnitudes in that a ratio of that kind exists between magnitudes which are exactly homogeneous to each other. The evaluation supposes a difference in nature between the things which one evaluates [but] which does not prevent the resemblance of value. One does never evaluate two pints of the same liquid which are supposed to be perfectly homogeneous. Thus one can not say that a pint of wine is worth a pint of the same wine or is worth half of the quantity called 2 pints. But one can say that a pint of wine is, or is not, worth half a pint of brandy or a pint and a half of a wine of a different kind. In order that an evaluation properly speaking can take place, it is necessary that there is between the things which are evaluated a resemblance without identity'. In this fragment Morellet is struggling with the distinction between use value and exchange value. His problems seems to stem from the fact that he confuses his own terms 'compared utility' [*utilité comparée*] and 'exchange value' [*valeur vénale*]. The former term expresses the notion that things can be compared with respect to their capacity to satisfy the same 'kind of need' [*genre de besoin*] (see note 59 above); for this the things have to have a 'resemblance without identity', that is they have to have 'heterogeneous' utilities capable of satisfying the same need. In contrast, in terms of exchange value *all* 'marketed useful things' can be compared. Thus, exchange value is indeed an 'exactly homogeneous' property as is assumed by Isnard. If this seems obvious, bear in mind that Morellet's reflection appears merely on a scribbling-paper. In Isnard the distinction is more clear-cut: in terms of use values exchanged things are 'heterogeneous' and in terms of exchange value they are 'homogeneous'. All in all these considerations of Morellet and Isnard seem a good illustration of the fact that one has to have one's *economic* concepts right before one can start the application of mathematics in a meaningful way to economic problems. Cf. the previous note.

108 Jaffé (1969:29) argues that Isnard by first considering a two commodity case and then expanding it to accommodate any number of commodities, provided the example for Walras's 'expository sequence' in the *Elements of Pure Economics* points 2 and 3. It seems well possible that Isnard adopted this approach from



Isnard appears to take Morellet's advice of seeing value as a 'simple fact exterior to the thing', or exchangeability': where the latter argues that 'value is like the equality which is reciprocal, common and the same between two terms of an equation', Isnard actually expresses the simple value relation in the mathematical terms  $aM=bM'$ .<sup>109</sup> This equation expresses

[...] that a certain quantity of one type of merchandise equals a certain quantity of another type of merchandise; that a number  $a$  of determined measures of one merchandise equals a number  $b$  of determined measures of another, one can conclude from this that the value of the first stands to the value of the second in the relation  $b$  to  $a$  (I, 17).

Following this idea, Isnard argues that if the marketed quantities of any number of commodities are given, it is possible to calculate the relative prices of units of each commodity. In this context Isnard makes an important theoretical observation. He points out that as soon as more than two types of commodities are traded, the right-hand side of the simple value equation will comprise the offers of more types of goods. This entails, however, that

[...] since the offers are composed of several heterogeneous commodities, it is not possible to deduce from the equality, or from the equation which we have just discussed, the relation between two particular commodities; to find the relation between two commodities taken two by two, one would have to formulate as many equations as there are commodities (I,19).

Isnard illustrates this important idea, *i.e.*, the definition of a mathematical demonstration of a single set of market prices, by calculating the relative values for the case of given quantities of three types of commodities,  $aM$ ,  $bM'$  and  $cM''$ . The total traded quantities of each of the commodities are, in their function of offers for the other two goods (right-hand side of the equations), divided into two parts, *i.e.*, quantities  $a$ ,  $b$ , and  $c$  are divided in respectively  $ma$  and  $na$ ,  $pb$  and  $qb$ , and  $rc$  and  $sc$  (where  $m+n=1$ ,  $p+q=1$ , and  $r+s=1$ ). Now three equations can be formulated:

$$\begin{array}{rclclcl} aM & = & * & + & pbM' & +rcM'' \\ bM' & = & maM & + & * & +scM'' \\ cM'' & = & naM & + & qbM' & + * \end{array}$$

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Morellet. The latter's *Prospectus* is mentioned by Isnard on page 295 of volume I. What is more, in the section which contains the discussion of exchange there is a passage (I, 23) where Isnard gives examples of different kinds of money which are nearly identical to those of Morellet. See chapter 4.4.1.

109 Several commentators note that Isnard's notation is confusing in the sense that it is not completely clear whether  $M$  stands for a unit or the name of a commodity (Baumol and Goldfeld 1968:253; Jaffé 1969:21; Klotz 1994:35-6). By and large, the capital letter  $M$  seems to denote the kind of commodity (and thus  $M'$ ,  $M''$  indicate other kinds of commodities). The lower case  $a$  and  $b$  stand for the number of units of the respective commodities. Klotz (*ibid.* 36 n.12) points out that in the article '*Raison*' in the *Encyclopédie* the same notation as that of Isnard is used.

“ Having done this, Isnard states:

One can deduce from those three equations the relations between the commodities taken two by two, and one will have  $M:M':M'': \frac{r+p-pr}{a} : \frac{s+m-sm}{b} : \frac{n+q-nq}{c}$  ;

One can also deduce from it the value of each commodity relative to each other one, and the quantities which each proprietor will get in exchange for his offers (I,20).<sup>110</sup>

This analysis is of course no mean achievement. Isnard here provides a '[...] (primitive) mathematical definition of equilibrium and a (also primitive) mathematical proof of that proposition', which is rightly hailed by Schumpeter as '[t]he crowning achievement of the epoch in this line of analysis' (Schumpeter 1954:217 and 307; cf. 954-5). Nevertheless it has to be observed that Isnard provides a mathematical treatment of a rather limited economic problem. What he demonstrates is how *given* physical quantities of marketed goods establish among themselves uniform exchange ratios.<sup>111</sup> An interesting question is now, what according to Isnard regulates the marketed quantities.

As was noted above, some commentators suggest that Isnard does not have an answer to this question, because he lacks a theory of utility maximization. An alternative interpretation is that Isnard assumes the marketed quantities as given in his discussion of exchange because he considers them as quantities which are purposefully produced to be sold. This view seems quite acceptable if one considers Isnard discussion of exchange in the context of the economic theory of that work as

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110 Theocharis (1983: 86 n.30) and Jaffé (1969:30-32) have both shown how one derives Isnard's ratios from his equations. For convenience their demonstration is here reproduced: substitute equation 1 into 2:

$$cM'' = \frac{aM - pbM'}{r} \text{ into 2 gives } bM' = \frac{maM + s(aM + pbM')}{r} \text{ from this one obtains } \frac{M}{M'} = \frac{b(r+sp)}{a(rm+s)} \quad (1.1)$$

Use both equations again to obtain the exchange ratio between M' and M':

$$bM' = \frac{m(pbM' + rcM'') + scM''}{r} \text{ from this one obtains } \frac{M'}{M''} = \frac{c(mr+s)}{b(1-pm)} \quad (1.2)$$

To obtain Isnard's continued proportion one has to multiply equation (1.1) by c/c and (1.2) by a/a, i.e.,

$$\frac{M}{M'} = \frac{bc(r+sp)}{ac(rm+s)} \quad \text{and} \quad \frac{M'}{M''} = \frac{ac(mr+s)}{ab(1-pm)}$$

Now one can write  $M:M':M'': bc(r+sp):ac(rm+s):ab(1-pm)$ , which when divided by abc and substituting  $s=1-r$  in the first right-hand-side quantity,  $r=1-s$  in the second, and  $m=1-n$ , and  $p=1-q$  in the third gives Isnard's solution given in the main text.

111 Jaffé (1969:35-37) acknowledges this as a difference between Isnard and Walras. He points out that whereas in Walras the total *existing* quantities of the various commodities are held constant (during the process of tatonnement that is), in Isnard only the total quantities of commodities *exchanged* are assumed given. This difference can be explained by the divergent aims of the theorists. Walras tries to establish *simultaneously* both prices and quantities produced and exchanged, understanding all decisions to be based on the utility maximising behaviour of individuals. In contrast, Isnard only tries to establish relative prices as a function of given exchangeable quantities [*les richesses mises en vente*]. In other words, while the Walrasian *general* equilibrium is determined within the system by the balancing of the supply and demand of each good (both corresponding to variations in prices), *market* equilibrium in Isnard's theory is the realisation of relative prices through the exchange of quantities which *for the purpose of the analysis of exchange* are assumed given.

a whole, and indeed in the context of the sophisticated treatments of the phenomena of value and exchange discussed earlier in this chapter.

In the first place, Isnard seems to take the *circular flow of goods* as the starting point of his analysis of exchange. To convince oneself of this one should replace  $a_{12}X_1$  and  $a_{21}X_2$  in figure 1 (p.19) by Isnard's  $aM$  and  $bM'$ . This offers an explanation for the fact that Isnard only considers marketed quantities: only merchandises purposefully produced for the market (*excédents*) 'become wealth'; products used for own consumption ( $a_{11}X_1$  and  $a_{22}X_2$ ) remain just 'goods' or 'use values'.<sup>112</sup>

Second, only a little further in the *Traité*, Isnard leaves no doubt that his analysis of the realisation of uniform relative prices in the market should not be seen in isolation. Instead, the latter prices should be related to the costs of production. He writes

[a]s we have seen [I, chap. 2, sect. 1 and 2], the values of products are established in the market, without the costs or expenditures of producers being considered: but those [producers] will not produce useful things, if they do not expect to have the costs returned to them, that is to say, the value of the advances necessary to the existence of that commodity. One has to assume therefore that the value of a commodity is at least equal to the costs of production [...] Those costs consist of the purchase of primary materials, which he [the producer] has to employ or consume in production, of the payment for the labour of the workers, and of fixed capital (I, 34-5).

This passage makes it quite clear that Isnard envisages a similar kind of relation between market prices and prices of production as the physiocrats and Turgot in the *Reflections*. According to Isnard it is the comparison between the market price of a commodity and 'the value of the advances necessary to the existence of the commodity' ('fundamental price') which guides the production decision of producers. Like the physiocrats generally, he assumes that producers adapt the quantities of commodities supplied to the market to the 'effectual demand' for them. He writes:

Consumption is necessary to reproduction. The reproducer [*reproducteur*] only acts in response to the sale of his products. It is necessary for the production of every thing that its value is at least equal to that of the costs necessary to its existence; if the consumption and sale do not assure it its value, the production stops, because the producers seek to employ their funds more usefully (I, 96).<sup>113</sup>

The phrase that the (sales) value of a product has to be '*at least equal*' to the costs of production is important. It indicates that Isnard faces a similar difficulty as can be found in the physiocrats generally. The relation between 'sales value' and 'fundamental value' is complicated by the fact that these writers assume that above the replacement of goods used up in production a 'net product' is produced. The distribution of this net product takes place through the assumption of prices which

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112 Similarly, the fact that the matrix representing the many goods case (above p.63) is truncated, can be explained by Le Trosne's remark on p 22.

113 For a further discussion of Isnard's perception of demand see section 4.3.2 and 4.3.3. below.

are higher than ones ensuring simple reproduction.<sup>114</sup> The complications which this problem causes for the theory of distribution will be discussed in chapter 5 and subsequent chapters. First it is necessary to examine what exactly is meant by the production of a surplus. This is done in the next chapter.

## 2.5. Conclusion

At the end of this long chapter, a few brief points can be made. In the first place, a distinguishing characteristic of the discussions of value and exchange of Le Trosne, Morellet and Isnard is that they emphasise that 'value' can simply be seen as a ratio of exchange between physical quantities of goods (or 'use values'). They quite explicitly decline attempts to relate this notion of exchange value to a single determinant like 'utility' (or 'need and scarcity'). Second, it has been argued that especially in Le Trosne and Isnard this position is related to the view that within a society with an established social division of labour individuals do not, (like the two savages on a desert island in Turgot's 'Value and Money'), 'calculate the intensity of the two needs' when exchanging their produce for that of others. Instead, in society producers make another kind of calculation. They compare the market value which their merchandise yields when sold with the costs incurred in its production. (As was argued, this is also the approach which Turgot follows in the *Reflections*).

Third, although costs of production are seen as the 'fundamental value' of commodities, there is precious little evidence that these writers believe that a single determinant can be found which expresses 'difficulty of production', like 'labour'. In this sense they differ from later British classical economists.<sup>115</sup> Interestingly enough, the writers under consideration appear to consciously avoid

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<sup>114</sup> This complicates the relation between Isnard's equations of exchange and equations of production. Cf. note 87 section 3.5 and notes 47 and 48 of section 4.3.2 below.

<sup>115</sup> Ricardo in particular insists that while the use value of commodities is related to their aptitude to satisfy human needs, their exchange value is ruled by the labour expended in their production. (He takes over the distinction between use and exchange value from Smith; see 'Notes on Bentham's *Sur le Prix*', *Works* III:284, n.24). The adherence to the labour theory of value leads Mac Culloch to the conclusion that '[...] M. Quesnay and his followers mistook altogether the nature of production, and really supposed wealth to consist of matter; whereas, in its natural state, matter is very rarely possessed of immediate and direct utility, and is *always destitute of value*. It is only by means of the *labour* which must be laid out in appropriating matter, and in fitting and preparing it for our use, that it acquires exchangeable value and becomes wealth' (1824:47-48; emphasis in original). Similarly Marx (TSV I:62-3) argues that 'Use-value was their [*i.e.*, the physiocrats'] starting point. And use-value of all commodities reduced, as the scholastics say, to a universal, was the material substance of nature as such, whose increase in the same form occurs only in agriculture'. Both commentators argue that the physiocrats see production exclusively as a physical process and that they confuse 'value' with 'matter'. As will be seen in the next chapter, this is certainly true to some extent. Still it may be conjectured that the physiocrats would have regarded as 'metaphysical' the alternative approach of associating the exchange value of commodities with the labour expended in their production (and even more so the postulation, as Marx does, of a 'social substance of value', *i.e.* socially necessary labour time). In this respect it is interesting to note

the use of *any* intangible 'substance of value' in their economics. This observation is relevant to the following chapters. It can be argued that the physiocratic concept of 'wealth' denotes physical quantities of goods which are purposefully produced to be sold and whose value is 'found out' or 'realised' in the market.

It is in this sense that the following statement should be read with which Le Trosne starts his discussion of the *Tableau économique* :

Arithmetic [*calcul*] is a method to deal with *measurable and comparable quantities*, between which one tries to discover some relation [...] Economic science, dealing with measurable objects, is susceptible of being an exact science and to be submitted to arithmetic (1777a:320).

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that in 1767 Baudeau dismisses Auxiron's theory that goods tend to exchange in proportion to the labour expended on them as 'abstract and confused' (*Ephémérides* vol.iv:163; cf. appendix B). One consequence of the fact that the physiocrats do not recognise a single 'underlying' determinant of value, is that they do not distinguish between 'value' and 'price'. Interestingly, though, in one place Le Trosne does distinguish between 'wealth' and 'value' in a manner which is not dissimilar from Ricardo (chapter xx of the *Principles*). Le Trosne argues that if the reproduction of goods were 'equally abundant' in some year (*i.e.*, if the production of all marketed goods would increase in the same proportion), the one could say that people would be able to consume more goods, and therefore would be wealthier, since '[...] being richer [is] being able to consume more' (1777b:897). But one could not say that '[...] each product would have lost [part] of its value, or its relation of exchange. For if one gives more of one product, one receives more of others: the relative equality is thus preserved' (*ibid.*). On the other hand, the relative exchange ratios *would* be affected if the offer of only one product were to be increased. 'The reason for this is that, without the number of consumers having increased, and without the quantity of other products being greater, [...] in order to sell, [the one product] will fall in price; that is to say, one gives more of it than normally for a given quantity of other products' (*ibid.*).

[...] it is, I say, the discovery of the net product which is the gift of God to humanity in this latest age (Mirabeau *Ephémérides du citoyen* 1768, vol. ii,75).

### 3. The origin of the surplus

#### 3.1. Introduction

Perhaps the most important contribution of François Quesnay to economic theory is his attempt to form a simple representation of the economic system as a whole. This he does quite literally in the various versions of the *Tableau Économique*, a highly original analytical tool to study the relations between the production of goods, their distribution among the different 'classes' of society and the conditions which influence the continuation of production.<sup>1</sup> According to many commentators Quesnay's construction captures two essential notions.

In the first place, the *Tableau* '[...] immediately conveys the view of the economy as a single system which must reproduce itself' (Vaggi 1987b:26).<sup>2</sup> The notion of the circular flow of goods and money is intimately linked to the idea that at the end of the cycle the production of goods must be repeated so as to enable the next cycle.<sup>3</sup> The factors which allow or prevent the recouping of the

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1 This chapter is not concerned with the technicalities of and differences between the various *Tableaux*, as the model evolved between 1758 and 1766. These issues form a subject in their own right. Recent examinations are those of Eltis (1984, chapter 1), Vaggi (1987b) and Pressman (1994). Still very useful are Meek (1962:265-96) and Nagels (1970:65-101). Unsurprisingly, considering the many aspects and uses of the *Tableau* and the differences in the theoretical backgrounds of the various commentators, the interpretations differ in some respects. I consider a detailed reexamination not to be relevant in the present context. My justification is that the support for and objections to the portrayal of the economy in the *Tableau* of the writers under consideration do not pertain to the specific calculations in that model, but are of a more conceptual nature. Only Le Trosne (1777a:320-4) discusses the exact magnitudes of the formula type of *Tableau*. Turgot, who undoubtedly had a good grasp of the *Tableau* (cf. Groenewegen 1987a:213), only gives verbal accounts of it (see below n.37), or as he himself puts it, concerns himself with the 'metaphysical', that is, conceptual aspects of the model. Similarly, Morellet's discussions of the *Tableau* in a few places in his manuscripts is primarily concerned with the terminology of the model (see below esp. n.61 and 62). Isnard for his part does present an alternative formalisation to some of the aspects of the *Tableau* in numerical examples which he calls 'systems of wealth'. They are mainly intended to disprove the exclusive productivity of agriculture and to distinguish the question of the production of the surplus from that of its distribution. (See below section 3.5).

2 Cf. Gilibert (1987:424) who argues that it was only in Quesnay's work that '[...] the essential task of economic science [becomes] the investigation of the technical and social conditions which allow the repetition of the circular process of production'.

3 The accepted view is that Quesnay probably derived his early views on the economic process as a circular flow from Cantillon. See Herlitz (1961), Meek (1962: 266-8), Fox-Genovese (1976: 273,280), Groenewegen (1987a:215), Aspromourgos (1996:103-25). This view is mainly based on similarities between Quesnay's economic views in his early articles, and in particular his originally much more complex analysis of the circulation of money which is similar to Cantillon (1755, II, ch. 3). Boisguilbert's influence is also recognised by a number of writers, and most (perhaps too) strongly by Nagels (1970). The merits and demerits of the interpretations of these commentators can not be discussed here. Suffice it to note that the theoretical similarities between Cantillon's or Boisguilbert's work and that of Quesnay are not uncontroversial. For example, Aspromourgos (1996:111) plays down the influence of Boisguilbert by denying that he had a notion

agricultural advances (obstructions to trade, the spending patterns of the class of landowners, new arbitrary taxes) form the main objects which the *Tableau* purports to analyse.<sup>4</sup> The notion of production as a circular process is expressed by Quesnay in a clear-cut way by his distinction between the (agricultural) advances, or those products which are required for the annual reproduction, and the 'net product', the part of the annual product which is 'disposable'.

Second, Quesnay is of the opinion that only one sector of the economy, agriculture, is capable of producing a 'net product' or a "produce which exceeds the produce used up in production". This 'net product' forms the income of the 'class of proprietors', or landowners, of the state and the church. He further argues that the net product of agriculture gives rise to all the non-agricultural economic activities in the economy. These latter activities are called 'sterile' by Quesnay, since they are assumed not to give rise to a 'net product'.

For our purposes it is useful to distinguish to some extent between, on the one hand, the perception of the economy as a circular or reproductive system, and on the other hand, the notion that the surplus, (the part which is produced in excess of reproductive requirements) originates solely in the agricultural sector. This is so because, while the first notion is taken over by Le Trosne, Turgot, Morellet and Isnard without many objections, the second idea is seriously modified or, in Isnard's case, straightforwardly rejected.<sup>5</sup>

### 3.2. Quesnay and Le Trosne on the origin of the surplus

Especially in the late 1760s and 1770s the doctrine of the exclusive productivity of agriculture came under attack from a number of opponents of the physiocrats, most importantly Graslin (1767),

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of surplus. Another example is Vaggi's emphasis on the differences between Petty and Cantillon on the one hand, and Quesnay on the other. The former are said to develop physical cost theories of price, and to have a linear conception of production (Vaggi 1987:79-80, 89-91) (see note 24 below).

4 The pivotal role of the agricultural advances is strongly emphasised by Quesnay. See *e.g.*, his comment in the 'Analyse' (1766b:151 n.2.) that '[t]he maintenance of this fund of wealth employed in cultivation should be the main object of economic government; for the revenue of the sovereign and the nation depends entirely upon it'. In a strong sense, it is the size of the agricultural advances which provide a starting point for the analysis of all other variables in the economy; Eltis (1984:25-6, 31-2) shows that the various magnitudes in the *Tableau*, are assumed equal to or fractions of the size of the agricultural advances so that the same amount of agricultural advances can be recovered. Although this is a largely formal requirement of Quesnay's schemes, it clearly brings out his conviction that all variables in the economy should always be judged with respect to the effects which they have on the size of the agricultural advances.

5 The first notion of production as a circular process, has profound implications for the theory of capital (or those products which are 'consumed' in order to obtain a new products). The further development of Quesnay's theory of capital will be discussed more fully in chapter 7.

Galiani (1770), Smith (1776,IV,ix), and Condillac (1776).<sup>6</sup> The outcome of these controversies was not as straightforward as has sometimes been maintained. A number of recent commentators has highlighted the fact that, while the public interest in the physiocratic doctrines dwindled after 1770, the 'academic' interest was much more long-lived. The idea that only agriculture produces a 'net product' is seriously debated by economic writers until the beginning of the 19th century (See *e.g.* Faccarello 1990, Delmas and Demals 1990, Steiner 1995). It has to be said that the controversy about the 'exclusive productivity' of agriculture is at times rather confusing.<sup>7</sup> This is so partly because the objections against the physiocratic doctrine are based on a variety of alternative, often ill-defined opinions of what it means to call an activity 'productive' or 'sterile' (cf. Delmas and Demals 1990:124). However, part of the confusion must also be put down to the fact that the physiocrats themselves do not use just one argument in defense of their opinion that only agriculture is 'productive'.

Our discussion in the previous chapter of the physiocratic concept of 'wealth' suggests that the phrase 'production of wealth' means two things at the same time: it means the production of useful physical things, and it means the production of things which can be sold. Consequently, 'being productive', *i.e.*, producing a 'net product' or surplus, can stand for producing a quantity of physical things in excess of the quantity of physical things used up, and/or producing a quantity of things

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6 Apart from criticising the physiocratic views about the sterility of industry and trade in his *Essai* (1767), Graslin wrote a 'Lettre aux Auteurs de la Gazette du Commerce' *Gazette du Commerce*, 22 August 1767, in which he opposes calculations presented by Mercier de la Rivière (1767) to prove the doctrine. A response followed in the *Ephémérides* vol.9, 1767, to which Graslin replied in the *Journal de Commerce*, November 1767. For a short discussion of the arguments of Galiani (1770) against the doctrine of the exclusive productivity of agriculture see Vaggi (1987:97-8). Galiani is not at all concerned with presenting an alternative theory of productivity. His ironic objections against the physiocrats are primarily motivated by his disagreement with the government policies inspired by them. See Goggi (1994). For Morellet's response to Galiani see notes 13, 47, 64 below. Also see chapter 6 n.55. On the relation of Smith relative to our writers see notes 26 and 63. And for Condillac's position see notes 12 and 25 below.

7 Some commentators maintain that the physiocratic doctrine of the 'sterility' of industry simply reflects the empirical fact that at the time this sector 'did indeed not create a surplus'. For example Pressman (1994:11) writes: 'Faced with different economic circumstances, such as a surplus-creating industrial sector, Quesnay probably would not have made the assumption that there was something special about agriculture and the regenerative properties of the land, and would have placed manufacturing, along with the labor of the merchant, in the productive sector. Much irrelevant criticism might have been avoided. In any event, Quesnay's model is flexible enough to permit the incorporation of a surplus in manufacturing'. This rather underestimates the intricacy of the issue. It may be argued that only Isnard succeeds in developing Quesnay's model so as to allow for a 'surplus-creating' manufacturing sector. However, Turgot already clearly allows for the idea that some of the surplus is *appropriated* in the manufacturing sector. The fact that there is a difference between these two positions indicates that we are not simply dealing with an empirical issue. For a useful survey of the various meanings of the dichotomy productive/unproductive in classical political economy see Groenewegen (1988). Much more wide-ranging but also much more confusing is Boss (1990).



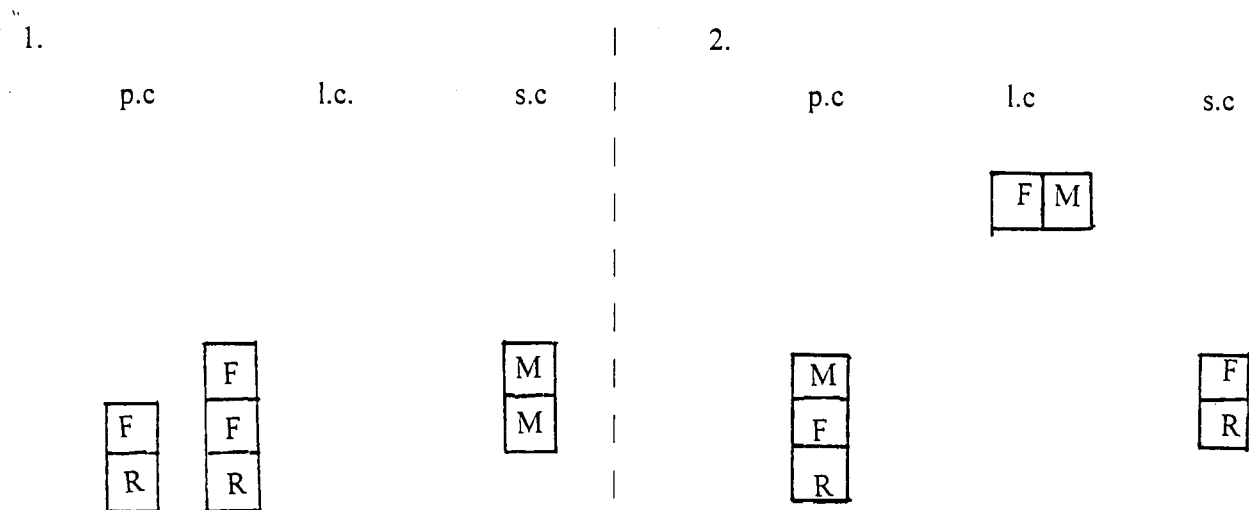
whose sales value or price exceeds the purchase price of the things 'consumed' in production.<sup>8</sup>

It is argued here that Quesnay and his immediate followers try to maintain that agriculture is 'exclusively productive' in both senses. For the purpose of this chapter, which is the comparison with the positions of Turgot and Isnard on the origin of the surplus, it is particularly relevant to distinguish between Quesnay's arguments in favour of the exclusive 'surplus generating capacity' of agriculture in physical terms and in value terms. The easiest way to do this is to look at a simplified representation of the final version of the *Tableau*. The following two pictures show the production of the annual product and its 'real distribution' respectively.<sup>9</sup>

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8 Note that a distinction is made in this chapter between 'production' and 'being productive'. This is largely in accordance with the usage of terms of the writers under consideration. For example, Quesnay speaks of the 'production of forms' in industry, a sector which according to him is not 'productive'. Isnard also uses the term 'productive' specifically to indicate activities in which a surplus is generated (or appropriated) see below section 3.5.

9 These figures are inspired by Nagels (1970:80-85). They abstract from the subsequent exchanges which have to take place to arrive from the moment "just after production and consumption" (picture 1) to the moment "distribution just before production and consumption" (picture 2). Of course to understand the circulation taking place in the *Tableau* one should not make this abstraction. Perhaps the best way of keeping track of this circulation is Meek's (1962) tabular approach, also used by Pressman (1994). A pleasant alternative is Nagel's pictorial approach with its moving blocks. These representations allow one to distinguish between movement of goods and circulation of money. However, for the present purposes we only look at the distribution of goods among the three classes just before and just after production. As a justification for this simplification may serve the following suggestion of Quesnay in the 'Dialogue on the Work of Artisans': '[...] make abstraction from money, and consider only this distribution [*i.e.*, the annual distribution of the products which are annually regenerated through the work of the productive class], which can actually be carried out without the intervention of money. For the productive class could pay in products themselves for the services and goods which it receives from the sterile class. It could pay in the same way the revenue of the proprietors, who would also pay in products the wages of the sterile class. And then there would remain for the productive class only that portion of its harvest which it itself requires for expenditure on the work necessary to regenerate each year the same reproduction, which would also be distributed in the same way each year among the three classes. [...] You can see from this form of distribution, which in actual fact is the real distribution of the annual products and consumption among the three classes, that this distribution terminates directly and completely in consumption, and begins over again with reproduction' (Quesnay 1766c:225).



p.c is productive class	F is food
l.c is proprietor class	R is raw material
s.c is sterile class	M is manufactures

Picture 1 shows the annual agricultural product of 5 milliards (3 m. of food and 2 m. of raw materials) in the hands of the productive class. It also shows 2 milliards of manufactures which should be understood to be carried over from the previous round of production. Picture 2 shows the distribution of the annual product of 5 milliards: 2 milliards (1 food and 1 raw materials) are retained by the productive class; 1 food and 1 raw materials are obtained by the sterile class, in exchange for 2 milliards of manufactures, one of which ends up in the possession of the productive class and the other in the possession of the proprietor class. The latter class also obtains 1 milliard of food. The move back to picture 1 from picture 2 symbolises the 'consumption' of the three classes: the consumption of the proprietor class 'destroys' food and manufactures, the consumption of the sterile class 'transforms' food and raw materials into manufactures, and the consumption of the productive class of 3 milliards 'generates' a new annual product of 5 milliards.

This representation is helpful in distinguishing between several arguments in favour of the exclusive capacity of agriculture to produce a physical surplus. A first argument used by Quesnay and his immediate followers is what may be called the argument for the 'primacy' of agricultural production.<sup>10</sup> The agricultural sector is primary, or anterior to other economic activities, in the sense that it first has to produce food and raw materials in excess of its own consumption before any manufacturing activity can take place. The idea that all non-agricultural activities are materially

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<sup>10</sup> In the picture above this idea is expressed by the fact that all goods originate from agriculture.

dependent on agriculture is often stressed in the physiocratic literature.<sup>11</sup>

Of course, the observation that agriculture is the primary sector of the economy hardly proves that only agriculture produces a physical surplus. However, the physiocrats frequently pretend it does. Le Trosne (1777b:887) states, for example, that the '[...] physical truth that the earth is the source of all the goods [*biens*] is so self evident that no one can revoke it'. Indeed Condillac does not deny it.<sup>12</sup> Other outspoken critics of the *économistes*, like Galiani,<sup>13</sup> and Hume<sup>14</sup> also admit the rather obvious fact that agricultural production is primary.

Second, the notion that agriculture (and fishing and mining) alone supplies all food and raw materials consumed in the economy leads Quesnay to distinguish between activities which work up or transport pre-existing goods and activities which 'generate' goods.<sup>15</sup> He argues:

We have to distinguish an *adding together* of items of wealth which are combined with one another, from a *production* of wealth. That is we have to distinguish an increase brought about *by combining* raw materials with expenditure on the consumption of things which were in existence prior to this kind of increase, from a *generation* or creation of wealth, which constitutes a renewal and *real* increase of renascent wealth (Quesnay 1766c:207).

This is not an isolated remark by Quesnay, and can be said to express his view that there is a 'physical difference' between the processes of production in agriculture and in industry (cf. Quesnay 1766c:205, 208, 213-4, 223, 227).

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11 See Weullersse (1910, I, 256-60), who even argues that the 'causal anteriority' is the most important sense in which the physiocrats understood that only agriculture is 'productive'.

12 Condillac (1776:254) states that '*la terre est l'unique source de richesses*'. At first this seems a surprising endorsement of the physiocrats. However, he makes it clear that he only understand this phrase in the sense that agriculture is primary. He distinguishes between agricultural products which are of the 'first order' and manufactures which are of the 'second order' (1776:261). To distinguish between the two kinds of products he uses the respective terms *richesses foncières* and *richesses mobilières*. He states: 'If there were no *richesses foncières*, there would be no *richesses mobilières*; or, what is the same thing, if there were no primary materials there would be no worked up materials'. The manner in which Condillac uses these terms is a little confusing since in the physiocratic vocabulary *richesses foncières* stands for landed properties, and *richesses mobilières* for moveable property. Baudeau (1776:437-8) and Le Trosne (1777b:935) criticise him for this. In the posthumous edition of *Le commerce*, chapter ix (part I) is partly rewritten to deal with this linguistic problem (Cf. Lebeau 1903: 139-44).

13 In a letter announcing that he will combat the *Dialogues* Morellet points out to Galiani that he himself has written in *Della Moneta* that 'agriculture is the mother of all wealth' (Morellet 1991:130, letter 45, 1/5/1770). In his *Refutation* (1770) Morellet uses this (rather unimpressive) argument against the Italian (cf. Weullersse 1910,I, 259 n.3).

14 Hume (1752: 324): 'Every thing useful to the life of man arises from the ground; but few things arise in that condition which is requisite to render them useful. There must, therefore, beside the peasant and the proprietors of land, be another rank of man, who receiving from the former the rude materials, work them into their proper form and retain part for their own use and subsistence'.

15 In the pictures above this idea is expressed by the fact that the sterile sector 'simply transforms' agricultural goods into manufactures. It is important to acknowledge that the first and second argument are not identical. As we will see in section 3.5 Isnard admits that agriculture is the primary sector, but denies that agricultural production is of a different nature.

The ultimate reason for the physiocrats to insist on this difference is their belief that the net product is due to the fertility of the soil. According to the physiocrats, agricultural production can be properly described as the 'generation or creation' of goods because the earth is the 'source of wealth' which returns a 'free gift' to the farmer over and above agricultural advances.<sup>16</sup> This phrase should not be misunderstood.

As several modern commentators rightly point out, Quesnay's ideas on the productivity of agriculture are based on a detailed knowledge of the technical conditions of agricultural production in France in the second half of the 18th century. In his *Encyclopédie* article 'Farmers', Quesnay bases his distinction between *la grande culture* (the large scale cultivation of land with horses by rich farmers working on their own account) and *la petite culture* (the small scale cultivation of land with oxen by peasant whose advances are paid by the landowner) on detailed estimations of costs of various inputs and expected yields. As Eltis shows, the common assumption of a net return of 100% over annual advances used in most *Tableaux* is probably a 'stylised fact' arrived at by rounding up the estimate in 'Farmers' of the net yield in farms practising *la grande culture* (Eltis 1984:7).<sup>17</sup> The notion of the generation of a 'net product' in agriculture is thus not just some abstract assumption.

Further, the idea that the physical surplus is a 'free gift' of nature does certainly not mean that agricultural product could be obtained without any prior advances. Indeed, the opinion that large advances, especially original advances or fixed capital, are essential to increase the productivity of agriculture is an outstanding aspect of Quesnay's analysis of production. The need to increase the agricultural advances in order to increase the agricultural output and so to increase the wealth of the nation can perhaps be said to be Quesnay's principal 'policy recommendation' for economic growth.

However, all this does not alter the fact that in order to explain that the 'renascent wealth', or agricultural advances, are capable of a 'renewal and real increase' in the available quantity of food and raw materials, the physiocrats often appeal to the 'fertility' of the earth. The abundant application of advances and human labour are seen as merely 'unlocking' or 'assisting' the fertility

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<sup>16</sup> Some commentators strongly play down this opinion of the physiocrats (e.g. Vaggi 1987 chapter 4). While it is certainly true that Quesnay's theory of surplus is much more refined than the simple idea of a 'gift of nature', it is not true that the notion does not play a role in the discussions at the time. Le Trosne could hardly have been more emphatic in his appeal to the notion that it is the association with the soil which makes agriculture 'productive' when writing: 'There is only one common source of wealth, *the earth*; there is only one [kind of] labour productive of wealth, *that of agriculture*; there is only one employment of wealth which ensures the reproduction of wealth, the advances of agriculture. All the rest is nothing but consumption, distribution, expenditure, circulation, change of form without an increase in goods [*biens*], because man works alone [in all other cases], and his labour is only productive with respect to the funds upon which he exercises it' (Le Trosne 1777a:47). In the present context, it is quite important to take this idea into account when differentiating between the positions of the physiocrats, Turgot, Morellet and Isnard.

<sup>17</sup> Vaggi (1987:100) also stresses the empirical background to Quesnay's assumptions about the size of the net product. The distinction between *la grande culture* and *la petite culture* is also discussed in considerable 'empirical' detail by Turgot and Isnard (see chapter 8 n.11).

of the soil.<sup>18</sup> While this may be said to be a fallacious view (when various inputs are used in a productive process, who is to say which one is responsible for the generation of the surplus), it is an argument which is used by the physiocrats.

In this context it should be noted that Quesnay could hardly 'prove' the surplus producing capacity of agriculture in physical terms. However, that does not mean that he does not suggest it is provable. In addition to the appeal to the primacy of agriculture and to the fertility of the soil, Quesnay sometimes seems to appeal to a third argument, namely that of the self-sufficiency of agriculture. For example in one place he asserts that

[...] the origin, the principle, of all expenditure and all wealth is the fertility of the land, whose products can be increased only through these products themselves. It is the land which provides the advances to the cultivator who renders it fertile in order to make it produce more. The artisan can contribute to this only by making certain implements which are necessary for turning over the land, and which in the absence of the artisan the cultivator would make for himself (Quesnay 1766c:209-10).<sup>19</sup>

What Quesnay is downplaying especially in the last sentence is that he in fact does assume that some of the manufactures are 'necessary goods', *i.e.*, goods which enter into reproduction. In the *Tableau* of the 'Analyse' this is quite clearly admitted.<sup>20</sup> (See the pictures above p.74). In various explanations of the *Tableau* (Quesnay 1766b, Baudeau 1767-70, Le Trosne 1777a) these manufactures are associated with the upkeep of the annual depreciation of the *avances primitives*, or fixed capital. Le Trosne (1777a:323) states:

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18 Sometimes the argument is given an almost metaphysical significance. See e.g. Le Trosne (1777b:887-8): '[Man] makes use of his power and his industry to evoke and assist [*solliciter et aider*] the fertility of the earth. It is thus not man who, through his work, gives it this faculty; she [earth] gets it [fertility] from the power of the creator and from the original blessing [which is an] inexhaustible source of the fertility of nature. Man finds this faculty already existent, he only avails himself of it. He ploughs the earth, divides it and entrusts seed to it which pull from the bosom of the earth the cause of their development [*qui tirent du sein où elles sont reçues la cause de leur développement*]. [...] The reproduction of beings, being a successive development from the first creation, can only belong to the one who has given life to all beings. But he in a way engages man in this act of his power, by requiring the participation [*concours*] of his labour. Man can therefore rightly call his work productive, because he employs it to obtain the multiplication of goods. By itself his labour is but an action, a movement, a way of being directed by intelligence. It is productive or sterile, according to the nature of its object and the funds on which it is exercised'. The reason to put some stress on this fine writing is that it constitutes an important difference with Isnard (see section 3.5 below ).

19 Cf. Quesnay (1766c:227): 'All men who work consume in order to subsist. But consumption destroys subsistence goods. Thus it is necessary that they should be regenerated. And it is the cultivator's labour which regenerates not only the subsistence goods which he himself has destroyed but also those destroyed by all the other consumers. The artisan's labour on the other hand, merely procures for him a right to share in the consumption of the subsistence goods which are generated through the labour of the cultivator'. Surely, the 'right' of the artisans to buy subsistence goods derives from the fact that they have sold the cultivators manufactures, but Quesnay choses not to emphasise this.

20 Already in earlier versions of the *Tableau* the agricultural sector is assumed to purchase 'tools and machines' from the manufacturing sector. Eltis (1984:13) argues that this is already the case in the third edition of the zigzag. See also the discussion of the *Précis* in Meek (1962:278). However it is only in the final version of the *Tableau* that these 'interest goods' are clearly visible (cf. Pressman 1994:39).

" The *tableau* of prosperity is one in which circulating capital [*avances annuelles*] of two supported by ten of fixed capital [*avances primitives*], are assumed to give a reproduction of five, which is 250 per 100 of circulating capital. Of those five the agricultural entrepreneur takes back two for the restitution of circulating capital, and one as interest on fixed capital.<sup>21</sup>

It is clear that the assumption that manufactures enter into agricultural production makes it difficult to support the claim that agriculture is a self-sufficient sector. Consequently, since the agricultural sector does not produce *all* its inputs it is difficult to demonstrate that agriculture is solely responsible for the production of the physical surplus.<sup>22</sup> Having said this, Quesnay has to be credited for merely playing down, and not denying the dependence of the agricultural sector on durable inputs produced by the 'sterile' class.<sup>23</sup> If he had pushed his point about the self-sufficiency of agriculture solely in order to make a stronger case for the 'exclusive productivity' of agriculture, he would have had to sacrifice what must be regarded as an innovative aspect of his analysis of production, *i.e.*, the production of durable capital outside the agricultural sector.<sup>24</sup> At the same time, as we will see it does provide Isnard with a crucial argument against the doctrine of the sterility of agriculture.

Just like the physiocrats do not actually demonstrate in physical terms that agriculture produces a net product, they fail to 'prove' that industrial activity is 'sterile' in a physical sense. This is quite clear from Le Trosne's inability to counter Condilllac's objection against the physiocratic distinction between the two kinds of production. Condilllac argues that '[p]roducing, in fact, is giving new forms to primary materials, for when the earth produces, she does just that' (Condilllac 1776:261; cited by Le Trosne 1777b:937).<sup>25</sup>

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21 Cf. Quesnay (1766b:154-5). For a further discussion of the figure of 10% of annual depreciation of fixed capital see below section 7.2.1 note 9.

22 This is pointed out by Meek (1962:154) and Vaggi (1987b:25).

23 The alternative interpretation is that Quesnay should have abstracted, or even actually did abstract, from the use of durable inputs in agriculture in order to assume that corn is produced by corn alone. This interpretation is first suggested by Marx (see Gehrke and Kurz 1995:57-8). As Gilibert (1989:93) notes, this interpretation became popular among some economists after Sraffa (1960:93) endorsed it. However, it is hard to find support for it in Quesnay. Vaggi (1987) rightly criticises 'all corn' interpretations of physiocratic theory.

24 Aspromourgos (1996:117) argues that Cantillon assumed that the agricultural sector produces all its durable capital goods itself. In this sense Quesnay must thus be said to depict an economy with a more fully established division of labour with a separate 'capital goods sector'. *Inter alia*, there appears to exist a disagreement between Aspromourgos and Vaggi about the question whether there is a much more fundamental difference between Cantillon and Quesnay. Vaggi (1987:89) argues that Cantillon does not have a circular view of production, and Aspromourgos maintains he has and that Vaggi is wrong (1996:203 n.21). This is an important issue: if the notion can not be found in Cantillon that some of the annual produce is required in the following year's production then it must be doubted whether his theory anticipates the surplus approach at all. The notion of 'surplus production' seems quite indeterminate if it is not specifically related to the more fundamental perception of the economy as a reproductive system.

25 Condilllac's denial that there is a material difference between the production of 'new useful things' in agriculture and in industry is somewhat reminiscent of Isnard (see below section 3.5). However, in fact the positions of the two men are quite different. The latter's definition of *surplus* production as production above

In response, Le Trosne starts by admitting that '[i]ndustry is [...] very useful and very necessary' since many agricultural products '[...] require a second labour to be made suitable to our needs' (1777b:937). He further admits that manufactures '[...] results from a change of form, and not from an addition of substances' (1777b: 939). That is, in industry agricultural goods (raw materials, food) are destroyed, and new forms (or use values) produced.<sup>26</sup> However, Le Trosne insists that the value which labour adds to raw materials in industrial processes, is exactly equal to the wage of the labourers (1777b:942).<sup>27</sup> On the one hand, this opinion seems to rests on nothing but the conviction that '[...] labour, applied to anything else than the earth, is absolutely sterile, because man is not a creator' (1777b:942). What Le Trosne, and the physiocrats generally, are in effect saying is that only agricultural products constitute 'real wealth' or 'use values', while manufactures are only 'real wealth' to the extent that they are composed of agricultural products.<sup>28</sup> It can be argued that this is a fallacy, since it ignores the fact that the 'changes of form' which basic materials undergo in industry makes them *different* use values, and that in that sense industry is capable of producing new 'goods' (which by itself does not yet mean that it produces a surplus). As

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reproductive requirements is wholly absent in Condillac. Instead, the sensualist philosopher bases his definition of productivity on the notion that any activity which increases the usefulness of things is productive since '[...] wealth consists in an abundance of things which have a value, or, which is the same, in an abundance of useful things [...]' (1776:254-5). Thus *trade* is productive, since it is an exchange of things without any use to the seller for things with a use to the buyer, thereby increasing the total number of useful things (1776:256). Similarly, *manufacturing* is productive by making 'unuseful' agricultural surpluses useful (1776:258). Le Trosne concludes: 'I only admit one source of wealth, and M. l'abbe de Condillac admits as many as he sees types of labour' (1777b:933)'.

26 He specifies that this process of conveyance of the value of the foodstuffs on raw materials is not '*en nature*' but '*par equivalent*', i.e. while foodstuffs are destroyed in the process, they are 'substituted by a value which, by means of exchange, exactly takes the place of the foodstuffs consumed during fabrication' (1777b: 940). In this context it is interesting to note that Le Trosne, like Adam Smith, makes the distinction between activities in which labour is expended on objects which can be resold and 'purely personal services'. (To be precise he distinguishes four kinds of sterile activities: manufacturing, wholesaling, retailing, and personal services [1777b: 948]). In contrast, to e.g. medical consults or the services of domestic servants which are 'neither transmissible, nor transferable' [*ni transmissibles ni cessibles*], agricultural products '[...] acquire a new [value] in manufacture which is transmitted and resold [...]' This value which industry adds to products, consists in the possibility, which the buyer of a manufacture has, to sell it and to get a price for it' (1777b: 949). This is similar to Smith's distinction between goods and services: 'the labour of the manufacturer fixes and realizes itself in some particular subject or vendible commodity' while 'the labour of some of the most respectable orders in the society [...] does not fix or realize itself in any permanent subject, or vendible commodity' (Smith 1776,II,iii). However, while this is the main criterion for Smith to call the first 'productive' and the second 'unproductive' labour, Le Trosne maintains that both kinds of labour are 'sterile'. For clarity, neither Smith nor Le Trosne (or the physiocrats generally) use the dichotomy 'productive-unproductive' unambiguously to distinguish between activities (or goods) which are necessary and unnecessary for the annual reproduction of the economy's output. See Morellet's criticism of Smith on this point ( below section 3.4).

27 This equality is established, according to Le Trosne, by a 'free agreement' purporting "You want to enjoy my labour, give me then the *total amount* of what I have expended by working" (1777:939; emphasis added).

28 Quesnay states this in so many words: '*les vraies richesses sont les productions qui renaissent annuellement de la terre*' (*Dialogue sur le commerce* INED II 834).

we will see, this point is well made by Isnard (see below section 3.5).

On the other hand, Le Trosne uses the common physiocratic argument that the great competition between workers normally reduces the wage to the subsistence level (see section 6.2.1). He argues:

The [industrial] workers do [...] nothing but conveying upon the primary materials, by means of their labour, the value of the foodstuffs which they have consumed. The great competition between them reduces the price of their labour, and limits their wages often rather tightly to their subsistence (Le Trosne 1770:22).

The latter assumption about the competition between workers is often taken to be the main physiocratic reason to claim that industry is 'sterile' (see e.g. Eltis 1984, Vaggi 1987). Of course, this argument relies on an assumption concerning the *exchange* value normally obtained by the agents of the industrial sector.

However, it is important to note that Le Trosne claims that even when industrial workers do command a wage above the subsistence level, this does not make their activity 'productive'. He insists that if artists are paid for their work in excess of their indispensable costs [*frais indispensables*], then '[...] they appear to obtain a kind of net product'. However, '[...] *they do not produce it, they gain it*; and this surplus value [*plus-valeur*], which is for them a profit, is an extra expense for the buyers'.<sup>29</sup> This somewhat cryptic formulation probably expresses the idea that if some workers do obtain a surplus or profit, this does not mean that they have 'generated' this profit, but instead that they succeed in appropriating some of the surplus produced somewhere else in the economy (*i.e.*, the agricultural sector). Thus according to Le Trosne, labour by itself, even that of manufacturers who make a profit, is never a 'source of value'.<sup>30</sup> Hence his general opinion that industry 'gains, without producing anything' (Le Trosne 1777b:944). The thing to note about this position is that according to Le Trosne a difference is possible between a physical surplus (difference between 'goods' used up and 'goods' produced) which he argues, never exists in industry, and a value surplus (difference between necessary costs and sales value of the produce) which under exceptional circumstances does exist in industry.<sup>31</sup>

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29 '*ils ne le produisent pas, ils le gagnent*' (1777b: 945; emphasis in the original).

30 See Le Trosne (1777b:950-1): '[i]f I build in a good neighbourhood in town, I will acquire a revenue proportioned to my expenses and capital. This difference does certainly not arise from the labour of the workers; [which] will have been the same on both sides [*i.e.*, value of labour equals wage]. It results from the greater or smaller competition among the people who want to buy those houses [*gens auxquels conviennent ces batiments*]' Note that Le Trosne mentions here that the surplus value appropriated by the housebuilder is necessary to give 'a revenue [*i.e.*, surplus income] proportioned to my expenses and capital'. This may be seen as another reference to the 'redistribution' of the agricultural surplus to allow for a profit over capital advanced in all enterprises. (See section 3.3.2 below).

31 As will be seen this distinction is useful for the interpretation of the positions of Turgot and Isnard on the issue. As will be argued (section 3.3), Turgot also maintains that a physical surplus only arises in agriculture, but that the existence of a value surplus in all capitalistic enterprises is the rule, rather than the



As was noted, the physiocrats do not only use 'physical' arguments in favour of the exclusive productivity of agriculture. As Vaggi has quite convincingly argued, a large part of the physiocratic defense of the view that the whole social surplus originates in agriculture is conducted in value terms. That is to say, they maintain that only in agriculture the sales value of the produce could persistently exceed the costs of the farmers' advances, by a sum equal to rent (See Vaggi 1987 esp. chapter 4). The specific term used by Quesnay and his followers to indicate the moment at which the value of the agricultural products is realised is the 'sale at first hand' by the farmers. This act of exchange establishes the 'value at first hand' (*valeur en première main*) of the agricultural produce. A clear explanation of the importance of this concept in physiocratic theory is given by Le Trosne, who writes:

But all types of value are not of the same kind. Only [the value] at first hand augments the mass of wealth, because only this one, which assures the receipt of returns and which decides about revenue, is of interest to the distributors of products [*i.e.*, the farmers and landowners]. The increase in value which the products obtain through subsequent works, are only an expenditure and an employment of the total of reproduction [which is] invariably determined by its physical amount [*quotité*] and measured by its value at first hand (Le Trosne 1777b:902-3).

Three things should be noted concerning the idea that the value magnitude of the total annual product available for consumption in the economy, is determined by the 'value at first hand'.

First, the sales value of the agricultural produce is understood as the principal data inducing farmers to increase or decrease their production in subsequent years. Only a sales revenue which allows the farmers to renew their advances and pay rent, will motivate them to maintain the same level of production. This income can only be obtained at the *bon prix*: '[...] the sale takes place at any price, [but] it is the *bon prix* which can maintain or raise cultivation' (Le Trosne 1777b:897). Thus the price at first hand, depending on whether it is a *bon prix* or not, influences physical quantities of agricultural goods produced in the next year (see also section 4.3.1 below). As Le Trosne states: '[a]lthough value is nothing but a relative quality, it is nevertheless quite important, since it decides about the state of cultivation and the sum of the net product, which is the measure of wealth and affluence of the nation' (1777b:899).<sup>32</sup>

Second, it is important to note that although the necessity of an adequate level of prices of agricultural products is often stressed in the physiocratic literature, this level is not determined within the *Tableau*. Instead, these prices are assumed to be established, so to say, at the very start of the

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exception. Isnard in turn argues that a physical surplus can be produced in any sector, while the distribution of this surplus to the sectors depends on relative values (section 3.5).

32 Sections x. to xvi. (pp.895-903) of the first chapter of *De l'intérêt social* are largely devoted to the issue that agricultural production can only be maintained or expanded if the prices of agricultural goods are raised to a sufficient level.

circulation of agricultural goods (in the sale at first hand).<sup>33</sup> As a result within the *Tableaux* the increase or decrease of agricultural incomes can only result from a increase or decrease of effective demand for agricultural goods at the given current prices.<sup>34</sup>

The notion that the prices of agricultural goods are fixed at the outset of circulation in the sale at first hand, aids the bias towards the role of agricultural as the sole 'surplus producing' sector. It can be argued that the sale of first hand in effect ensures that given physical quantities of agricultural goods are assumed to have fixed prices attached to them during their circulation. This price/quantity relation can not even be altered if the physical object is destroyed in the manufacturing process, since it is assumed that artisans are '[...] conveying upon the primary materials, by means of their labour, the value of the foodstuffs which they have consumed'.<sup>35</sup>

Finally, note that the idea that the value of agricultural goods is fixed in the sale at first hand has a consequence for the perception of how the surplus is distributed (cf. chapter 5; esp. n.11). The difference between the sales revenue of the agricultural produce and the costs of the farmers' advances is identified as the 'net product'.<sup>36</sup> Since the 'net product' is presumed equal to the amount of rent paid to the land owners, it can be said that the distribution of the surplus is fixed before circulation. This observation is useful to keep in mind when we examine the ideas of Turgot and Isnard on the origin of the surplus.

### 3.3 Turgot

#### 3.3.1 Turgot on the origin of the surplus

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33 In the article 'Analysis' for example, Quesnay does this by simply stating that the data of the *Tableau* '[...] assume that freedom of trade maintains sales of products at a proper price- a price of 18 livres per *setier* of corn, for example;[...]' . Thus prices are assumed to remain constant during the process of circulation pictured in the *Tableau*.

34 It is largely for this reason that Vaggi has rather persistently argued that the *Tableau* should not be considered as 'a synthesis of all the relevant aspects of physiocracy'. See Vaggi (1980:73-6); (1983:1 n.2); (1987b:27-8). This also appears to be the reason for a peculiar disagreement between Vaggi and Pressman. The latter seems to claim that Quesnay had nothing noteworthy to say about relative prices, and that Vaggi's interpretation of physiocracy is unacceptable. See his review of Vaggi (1987) in HOPE 1991, and his remarks in Pressman (1994:181). In the latter text Pressman states that Vaggi's interpretation is 'not consistent with the theory of output contained in the *Tableau*'. If this is so, and if Vaggi's interpretation is properly supported by primary sources (which it is) then there would seem to be an interesting problem which needs to be addressed. Instead Pressman seems to prefer to ignore the aspects of physiocratic theory highlighted by Vaggi since they are not 'consistent' with the *Tableau*. This seems a curious criterion in a historical study. In fact, Isnard is already criticising the *Tableau* for its assumption of fixed prices (see section 3.5, p.104 below).

35 See above p.80.

36 As Vaggi (1987:especially 116-120) notes, while the physiocrats assume that competition normally reduces the market prices of manufactures to the necessary costs, they are unable to explain why the market prices of agricultural goods would persistently exceed the farmers' costs. Since this issue is nearly identical to the failure of the physiocrats to account for the persistence of rent, I will postpone the discussion until chapter 8.

Turgot's position with respect to the doctrine of the exclusive productivity of agriculture is a somewhat contentious issue among modern commentators. Some argue that Turgot rejected the idea (see e.g. Groenewegen 1970:331; Aspromourgos 1996:156), while others maintain that he accepted it (see e.g. Morilhat 1988:128-143; Faccarello 1990). In this section the latter view will be taken. However, it will also be argued that the disagreement between modern commentators reflects a real problem in Turgot's economic writing. Meek (1962:311) has described Turgot's problem as his need to reconcile

[...] the idea that the agricultural net product is the only true form of surplus with the manifest fact that anyone who employs capital, in whatever occupation, normally receives a reward which at least appears to contain an element of true surplus, and out of which new capital can be accumulated.

Before examining the reconciliation which Turgot suggests between these two ideas, it is important to establish that he did indeed affirm Quesnay's view that agricultural activity is 'the unique source of wealth' (Turgot 1766:46), and to examine his arguments in favour of this position. Turgot endorses the physiocratic doctrine in a number of places. One statement to this effect can be found in an interesting passage in a letter to David Hume (dated 25/3/1767; in Schelle 1913-23:658-665), which describes the economic system as a whole. Turgot writes

I just want to indicate to you the principle from which I start and which I believe to be incontestable: it is that there is no other revenue possible in a State than the annual sum of the products of the land; that the *totality of products* divides itself into *two parts*: one [part] is assigned to the *reproduction* of the following year, and which comprises not only the part of products which the entrepreneurs of cultivation consume in kind, but also everything which they use to pay [*salarier*] the workers of all kinds who work for them: blacksmiths, cartwrights, saddlers, weavers, tailors, etc.; it also comprises their profits and the interests on their advances. The other part is the *net product* which the farmer pays to the proprietor, when that person is distinct from the cultivator, which is not always the case; the proprietor employs it [*i.e.* the net product] for the payment [*à salarier*] everyone who works for him;[...] (Turgot 1767; Schelle 1913-23, II:662).

Two points can be made with respect to this passage. First, in a few sentences Turgot provides here an outline of a reproductive-surplus-producing-economy. He distinguishes between the 'totality of products', or total product, the part 'assigned to the reproduction of the following year', or reproductive requirements, and the 'net product', or surplus. Second, he leaves no doubt that in his opinion the 'totality of products' (and consequently the two parts into which it is divided) consists of the produce of the agricultural sector. Part of this agricultural produce (that is, part of the reproductive requirements, and part of the net product) are used to 'employ' [*salarier*] people engaged in non-agricultural activities.

It seems safe to argue that this perception of the economic process is taken over almost

completely from Quesnay.<sup>37</sup> The second point, that the whole annual produce is produced in agriculture is further explained in the *Reflections*, written a few months earlier. In that text the physiocratic idea that agricultural production forms the starting-point of the circular flow of commodities in society is explicitly taken up in sections 5 to 8:

In this circulation, which by a reciprocal exchange of wants, renders men necessary to one another, and constitutes the bond of society, it is [...] the labour of the Husbandman which is the prime mover (Turgot 1766:45).

Turgot insists that the exceptional position of the agricultural sector is 'not a pre-eminence of honour or of dignity, but of *physical necessity*' (*ibid.*; emphasis in the original). The term 'physical necessity' seems to cover a number of arguments, which can be separated from one another in the same manner as in the previous section. In the first place, Turgot argues that it is agriculture which produces the goods which are indispensable to production in society as a whole: food and raw materials (*ibid.*). As was argued, this observation is merely a recognition that agriculture is the primary sector of the economy, which is hardly the same as the proposition that agriculture is the 'unique source of wealth'.

Second, Turgot continues by stating that the farmer 'has the advantage of a greater degree of independence'. That is to say, '[t]he Husbandman, generally speaking, can get on without the labour of other Workmen; but no Workman can labour, if the Husbandman does not provide his food' (*ibid.*). In other words, Turgot pretends that agriculture is a more or less self-sufficient sector. This suggestion could indeed be turned into a successful argument that agriculture produces a physical surplus in the sense that it produces quantities of goods in excess of the inputs which are exclusively its own.<sup>38</sup> However, it should be noted that Turgot does not pursue this argument. A probable reason for this is that it conflicts with Turgot's own ideas concerning the dependency of the farmer on the services of 'blacksmiths, cartwrights, saddlers, weavers, tailors etc.'<sup>39</sup> Generally, like Quesnay, the agricultural sector which Turgot has in mind (*i.e.*, believes to become typical in

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37 In fact it may even be argued that Turgot gives a verbal account of the *Tableau* in the above passage. This is suggested by his breakdown of the necessary costs in a part 'consumed in kind', which corresponds with the *avances annuelles* withheld from circulation, and a part spend on services of non-agricultural professionals, which corresponds to the replacement of *avances primitives*, or fixed capital. It is true that the item 'profits and interest of the advances' does not appear in the *Tableau*. In particular the last item, which stands for the 'return over capital advanced' must be considered as Turgot's original contribution. Note that he does not account for these items outside agriculture. This may be due to the brevity of his description, since he had certainly developed the notion of profit in industrial and mercantile enterprises by the beginning of 1767. See section 7.3.6 for a more detailed discussion.

38 Cf. above n.23.

39 See the passage from the letter to Hume cited above. Note that Turgot assumes that these expenditures form part of the *necessary costs* of agriculture. The types of professions he mentions strongly suggest that the products purchased by the farmers from these non-agricultural professionals are durable goods entering into production, *i.e.*, 'fixed capital'.

a developed economy), is one which practises *la grande culture* using large amounts of fixed capital.<sup>40</sup>

Alternatively, if it is admitted that there is a mutual dependence between the agricultural and industrial sectors on each other's products as inputs, the 'exclusive productivity' of agriculture may be defended by the argument that the relative prices are such that only the prices of agricultural goods exceed the necessary costs of production. This defense, in terms of exchange values, seems to be Turgot's third argument. In the sections 6 and 7 he contrasts the returns to the labour of the workman [*Ouvrier*] with that of the husbandman. On the one hand, '[i]n every kind of work it must, and, in effect does happen that the wages of the Workman are limited to what is necessary to procure him a subsistence' (1766, section 6). On the other hand, '[t]he Husbandman is the only one whose industry produces more than the wages of his labour' (1766, section 7). To defend the former position he appeals to the competition between workmen which forces the level of wages down to the subsistence level.<sup>41</sup> In contrast, in defence of the latter position Turgot simply ignores competitive forces:

The position of the Husbandman is materially different. The soil, independent of any other man, or of any agreement, pays him directly the price of his toil. [...] What she grants is [...] the physical result of the fertility of the soil, and of the wisdom, far more than the laboriousness, of the means which he has employed to render it fruitful. As soon as the labour of the Husbandman produces more than his wants, he can, with the surplus which nature accords him as a pure gift above the wages of his toil, purchase the labour of other members of society (1766:46).

This argument in favour of the exclusive surplus-producing-capacity of agriculture simply amounts to an article of physiocratic faith. It is the belief that the surplus is due to the 'fertility of the soil'. This idea is also suggested in other places by Turgot, for example in the 'Observations on a paper by Saint-Péravy', when he asserts that '[a]dvances, which are only a form of expenditure, are not in themselves productive; [...]' (Turgot 1767a:111; cf. 1766 section 53).

In comparison to the physiocrats, what is striking is Turgot's stress on the '*physical* necessity' of the idea that the circular flow starts with the sale of the agricultural produce, and that agricultural is '*materially* different'. For this reason Morilhat (1988:141) calls Turgot's position 'more physiocratic than Quesnay', in the sense that the former emphasises the 'material' or 'naturalistic' sense in which agriculture differs from other activities. Since the argument with respect to the primacy of agriculture is insufficient and the argument with respect to the self-sufficiency of agriculture is not pursued, one is tempted to conclude that Turgot does not provide a very convincing demonstration that only agriculture is 'productive'.

However that does not mean that Turgot does not take the doctrine seriously. This point is

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40 Turgot certainly appreciated this aspect of physiocratic theory. Cf. ch. 7 n.91.

41 For the ambiguity of the term *ouvrier* in this section see chapter 5 note 6.

especially important for the following reason. The notion of excess produce of agricultural goods provides the image of a fixed annual quantity of 'physical matter' available for distribution in the economy. It appears that Turgot maintains this image throughout the *Reflections*, and also in other later writings.

### 3.3.2 Turgot's "transformation problem" ?

This claim may seem surprising considering the fact that Turgot at a later stage of the *Reflections* (from section 59 onwards) explicitly allows for the existence, under normal circumstances, of profit as a return over capital advanced not only in agricultural, but also in industrial and commercial enterprises. There seem to be only two ways of reconciling this later idea with that of agriculture as the 'unique source of wealth'. Either the earlier notion does not apply to the economy which Turgot describes from section 29 onwards.<sup>42</sup> Or it does, but then he has to attempt the reconciliation indicated by Meek (above p.83). In favour of the latter interpretation is that Turgot nowhere explicitly denies that only agriculture produces a surplus. More importantly, at the very end of the *Reflections*, he indeed makes a conscious effort at a reconciliation.

To understand Turgot's position it is useful to recall Meek's argument that the physiocrats failed on two accounts to deal with profits: they did not recognise profits as a) a proportionate return to capital employed, and b) embodying the surplus generated *in the production to which the capital has been advanced* (Meek 1962:385).<sup>43</sup> In Turgot's case it is indeed very useful to distinguish between these two aspects: he adopts the first idea, but this does not seem to commit him to the second one.<sup>44</sup> Instead he seems to maintain that non-agricultural profits do not originate in the activities where they are appropriated.

This is the impression which one gets from a passage in section 99 of the *Reflections* which follows after his discussion of the phenomenon that capitalists who lend money, that is used as advances in industry, trade, or agriculture, receive a return which is proportioned to the sum lent. Turgot then remarks:

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42 This is suggested by Groenewegen (1983b:42) who argues that the second part of the *Reflections* relates to the commercial stage of society superseding the agricultural stage of the first 29 sections. However, it is unclear whether, according to Groenewegen, this historical transition also invalidates the notion that the social surplus originates in agriculture.

43 By means of explanation of this failure of the physiocrats, Meek (1962:381-85) further argues that both their advocacy of the single tax on rents (which reinforced the view that profits were not part of the surplus), and 'serious conceptual difficulties' prevented them from acknowledging these 'facts'.

44 A more detailed discussion of the first idea is given in the sections 7.3.1 to 7.3.3. Here the emphasis is on the second notion.

We see by what has been said, that the interest of money lent is taken from the revenue of lands, or from the profits of agricultural, industrial, or commercial enterprises. But we have already shown that these profits themselves were only a part of the produce of lands; [...] We have demonstrated, that what the other classes of society received, was merely the wages and profits paid either by the proprietor from his revenue, or by the agents of the productive class from the part destined for their needs, and which they are obliged to purchase from the industrial class. [...] It therefore remains true that there is no revenue save the net produce of land, and that all other annual profit is paid, either by that revenue, or forms part of the expenditure that serves to produce the revenue (1766:93-4).

The conclusion reached here by Turgot, that profits obtained in industrial or commercial enterprises are *paid out of* the incomes of either the landowners or the farmers, entails that he is of the opinion that they do not constitute a surplus *generated in* the former activities. He expresses exactly the same view four years later in the 'Letters on the Grain trade', something which suggests that he considers it as more than just an *ad hoc* attempt to bring some consistency to the *Reflections*.<sup>45</sup> It seems obvious that the reason for Turgot adopting this position is to accommodate his original contribution of seeing profit as a return over capital advanced within the physiocratic ideas on the origin of the surplus. As was noted, the idea that some of the surplus may be appropriated by highly paid 'sterile' workers is not entirely strange in more doctrinaire physiocratic writings. However, this is mainly seen as an exception (extraordinary talents, privileges). In contrast, Turgot appears to make this transfer a regular phenomenon.

An interesting question is therefore whether the (other) physiocrats accepted the manner in which Turgot allows for the existence of regular profits outside agriculture. It is hard to say anything on this point in general. The only (negative) evidence is that the *Reflections* were first published in the official periodical of the *économistes*, the *Ephémérides du citoyen*, an organ not noted for its permissiveness of heterodox views.<sup>46</sup> A more convincing kind of evidence as to the acceptance of Turgot's position would be to find a physiocratic writer adopting the former's view. It is mainly for this reason that a rarely noted account of the origin of industrial profits, given by Le Trosne soon after the publication of the *Reflections*, is so fascinating. At stake is a passage in *Les Effets de l'impôt indirect* (1770) which deserves quotation at some length. Speaking of the sterility of industry, after first noticing that industrial workers normally only receive subsistence wages, Le Trosne writes:

One will perhaps say that if the artisans [*i.e.*, industrial wage labourers] only earn their living, the entrepreneurs of the works of commerce and industry make great profits and enrich themselves. This is true, but if one

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45 In his fifth letter on the grain trade Turgot writes: 'All the *wages* of the workmen, all the *profits* of the entrepreneurs in every type of manufacture and trade, are paid, partly by the cultivator, namely, for the expenditure required by the satisfaction of their needs, or by the work of their cultivation; partly by the proprietors, and the other partakers of the net product [...]' (Turgot 1770b:170).

46 In the numbers for November and December 1769 and January 1770, which were not issued until January, February and April 1770. The 'corrections' which Dupont made to this edition of the *Reflections* do not concern the acknowledgment by Turgot of profits outside agriculture.

concludes from this that those profits are an increase of wealth for a nation, one could as well conclude that when a man wins the jackpot in the lottery, there is an increase of wealth for the nation. The entrepreneurs, in addition to their cares, contribute capitals and advances from which they have to receive a proportioned interest, because nobody makes advances but in the hope of a profit. They could have acquired landed properties which would have given them a revenue; and they have to take into account that their profits serve to repair the losses to which they have been exposed: but those profits are costs to those who pay for them, costs which are always paid for by the [agricultural] production, [and] which do not constitute an increase but an employment of wealth of a nation, and it is in the interest of the two classes who own the totality of reproduction [*i.e.*, farmers and landlords] to reduce [the industrial profits] to the indispensable costs through free competition (Le Trosne 1770:23-4 note).

This passage is interesting for at least two reasons. First, the comparison by Le Trosne of the distribution of the agricultural produce in society with a lottery is revealing. It aptly expresses, perhaps even more strikingly than in Turgot's case, the picture of the generation of the social product as the formation of a 'pool' of a fixed magnitude prior to distribution.<sup>47</sup> Second, as is stated in the last sentence of the passage, the distribution of this 'pool', or *excédent disponible* is assumed to involve a competitive process in which the prices of manufactures are reduced to 'indispensable costs' [*frais indispensables*]. However, those 'indispensable costs' are understood to include a 'proportioned interest' over the advances in agriculture.

Le Trosne suggests that the 'pool' can simply be understood to consist of a physical quantity of agricultural produce. In the same footnote where the above passage appears, Le Trosne gives a numerical example in which the only commodity allowed for is wheat. He provides the following figures: a person sows 3 *septiers* of wheat and harvests 18 *septiers*.<sup>48</sup> This harvest is enough to replace the 'cost of seed and work' [*frais de semence & labour*] and to leave a 'disposable surplus' [*excédent disponible*] of 10 *septiers* (Le Trosne 1770:20 note). This implies that labour costs are assumed to be 5 *septiers* of wheat, the replacement of seed being 3. It is not too difficult to express the idea of the distribution of the *excédent disponible* by means of Le Trosne's numerical example. If one supposes that the advances of industry are 4 *septiers* of wheat (say, 2 food, 2 raw materials), and if one supposes that the 'proportioned interest' is 25%, then the profit in agriculture would be 2 *septiers* (advances being 8) and in industry 1 *septier* (*advances being 4*). Of the 'pool' of 10 *septiers* of wheat, 5 would thus be used to cover the 'indispensable costs' of industry and 2 would return to agriculture.<sup>49</sup> To be clear, Le Trosne did not present this solution. If he had, this would

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47 It is interesting to note that in the same year Morellet, in his defense of the physiocrats against Galiani's successful attack, writes: 'It is not more correct to oppose the example of a city like Geneva against the general principle that Agriculture is the source of wealth of Nations, than it would be to pride oneself on the example of the player who has gained wealth in a game, against the assertion that only the property in land, or enterprises of commerce, industry, and agriculture, could enrich a citizen' Morellet 1770 (1774:178).

48 The *septier* was a *physical* measure commonly used in France at the time.

49 Three *septiers* would be left, which could go to the landowners as rent. That is, if Le Trosne had assumed the existence of a separate landowning class in this example, which he does not. Also absent is fixed capital (manufactures used in production). As was argued above, Le Trosne and the physiocrats generally do



have been truly remarkable. Still, it may be argued that the proximity of the example in terms of quantities of wheat to the passage with the image of the lottery, justifies the claim that the present interpretation is in the spirit of what Le Trosne has in mind here.

Le Trosne's account may very well have been influenced by that of Turgot.<sup>50</sup> In any case it throws light on Turgot's position in two ways. First, it confirms the interpretation that Turgot understood the notion of the agricultural sector as producing the 'surplus' to be distributed in society primarily as a 'physical fact', *i.e.*, that agriculture supplies all the food and raw materials for society as a whole. This is important since the alternative would involve a transformation of 'values into prices'. (cf. p.91 below).

Second, the rather subtle renaming by Le Trosne of the part of the *excédent disponible* which is used in the manufacturing sector into *frais indispensables*, clarifies a difficult aspect of Turgot's economics. The question at stake here is whether in Turgot's work, profit as a return over capital advanced can be considered as part of the surplus. In several places Turgot insists that the profits made in agricultural, industrial and commercial enterprises must be considered as 'necessary costs'.<sup>51</sup> It is important to note that this does not preclude the idea that profits share in the surplus in another sense. The return on capital advanced *is* a net element in the sense that it is paid out over and above the costs of replacement of fixed and circulating capital.<sup>52</sup> This interpretation is confirmed by the idea that the return on capital is part of the *frais indispensables* paid out of the *excédent disponible* of agriculture. Finally the practical point has to be acknowledged that Turgot wants to argue that profits and interests should not be taxed, and therefore stresses that the increased cost of borrowing resulting from such taxes would endanger the continuation of some economic activities.<sup>53</sup>

There remains the question of the (historical) significance of Turgot's position that the

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acknowledge the importance of the latter inputs. The same is true for Turgot. This indicates that Le Trosne purposefully gives a very simple example. The numerical example just given in the main text is merely meant as a *simplified* illustration of the redistributive process envisaged by Le Trosne and Turgot.

50 That Le Trosne follows Turgot's views expressed in the *Reflections* is in the first place suggested by the fact that the former makes a clear-cut distinction between the 'entrepreneurs of the works of commerce and industry' who 'make large profits', and workers who only earn their subsistence. Second, he notes that for investors of capital in industry the consideration of the returns which they could obtain in a "passive" employment of their capital, influences the return which they expect from the employment chosen. Both ideas figure prominently in the *Reflections*. For other instances of the latter idea in the physiocratic literature see note 104 chapter 7.

51 This point is first stressed by Turgot in 1763, when he asserts that one has to distinguish between 'profit' and 'revenue'. Only revenue, or rent, is truly disposable while, according to Turgot, Quesnay was right '[...] not to include the profits of the cultivator in the *net product* [...]' (Turgot 1763:102). Cf. the discussions of Meek (1973a:17) and Faccarello (1990:301).

52 This point will be made more fully in section 7.3.6.

53 See *Reflections* sections 98 and 99, and his letter to Hume of 25/3/1767. Perhaps significantly, Le Trosne's account appears in a work devoted to the theory of taxation.

physical surplus generated in agriculture is not only used to supply industry with materials used up in this sector, but also to pay profits. Two opposing views exist. On the one hand, Meek clearly finds Turgot's 'reconciliation' unconvincing. He argues that an attempt to account for profits in agricultural and non-agricultural enterprises within physiocratic theory could not have been successful since 'the framework of traditional Physiocratic theory was too rigid to contain these new ideas for long', and that Turgot's attempt shows that 'physiocracy begins to burst its beams' (Meek 1962: 311, 312). Something has to give way, and that something is the doctrine of the exclusive productivity of agriculture. Turgot's defense of this doctrine should therefore be seen as 'purely formal', and as a transitory position 'preparing the way for Adam Smith' (*ibid.* 312).<sup>54</sup>

In contrast, Faccarello has recently argued that the problem envisaged by Turgot is very similar to the 'transformation problem' which poses itself more than a century later in volume three of Marx's *Capital* (Faccarello 1990:72, 1992:268).<sup>55</sup> Moreover, Faccarello shows that the same notion of redistribution of the agricultural surplus figures two decades later in the work of Condorcet and Roederer, two followers of Turgot.<sup>56</sup> The comparison with Marx's 'transformation problem' is interesting, if only because this is such a famous theoretical problem. The similarity between Turgot's and Marx's problem is described by Faccarello (1990:72) in a rather general manner:

[...] a magnitude, produced in a specific 'place' in the economy, with the help of -or by- specific agents, is not fully appropriated by them, but redistributed according to another rule than the one which may express the

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54 Cf. Meek's argument that physiocratic writers were forced to accommodate in their theories the empirical fact of '[...] the rise of Smith's third 'constituent order' (the capitalist class)' and their type of income, profit (Meek 1962:307; cf. 310 and 309).

55 Gehrke and Kurz (1995:76-7, note 20) go a step further and maintain that '[i]t may be conjectured that Marx got this idea [of the redistribution of a predetermined aggregate surplus value in proportion to the capital advanced in the various spheres of production] from these authors [i.e., Turgot, Condorcet and Roederer] and that he generalized it to all spheres of production in which surplus labour is performed.'

56 A difference in Roederer's case, noted by Faccarello (1990:71), is that this writer no longer refers to profits in industry as costs [*frais*], but calls the returns on capital invested in any employment 'revenue'. By seeing not only the return on land, but any type of return on capital invested as 'revenue', (i.e., freely disposable), he disagrees with the physiocratic proposal of the single tax on land (*ibid.* 76). This would seem quite an important deviation not only from the physiocratic position, but also from Turgot. It can also be noted that Roederer and Condorcet are probably not the only writers in the period to whom a position similar to Turgot can be ascribed. One obvious candidate is Dupont (see the discussion of Delmas and Demals 1990). Garnier, in 1796, acknowledges the existence and importance of entrepreneurial profit. 'Yet he persistently stated that "proprietors are responsible for the sole distribution of wealth" and that "in the last analysis, all revenue in the mercantile cities comes from land"' (Staum 1987:538). Garnier was known especially for his edition of *Wealth of Nations*. He saw Smith as a follower of the physiocrats arguing in his notes to the 1802 edition of WN 'that the "sterile" classes were productive, but not of a "net product", [...]' (Spengler 1942:151). See Garnier, *Abrégé élémentaire des principes économiques* (Paris, an IV). Another candidate is Spence, an English follower of the physiocrats, who in the early 19th century held '[...] that the net income of the manufacturing capitalists was not an original but a derived revenue, and that any accumulation of capital out of their profits would be at the expense of the landed proprietors' (Meek 1962:324). This issue may be investigated more fully.

strict application of "property rights".

There is some merit in this characterisation. It does bring out the fact that Turgot envisages some kind of redistribution of surplus from one sector to another. Expressed in this manner, there is indeed some resemblance to Marx's idea.<sup>57</sup> However, it is important to be more precise on this point. In the first place, the 'magnitude' Turgot refers to consists of physical agricultural produce. In contrast, in Marx's case the 'magnitude' consists of 'labour values'.<sup>58</sup> The latter concept is alien to physiocratic thought: before the realisation of exchange values (prices) in the market, goods only exist as physical things (see chapter 2). Second, both Turgot and Marx seem to believe that when several kinds of inputs are combined in a production process, it is still possible to indicate the one agent which is responsible for the 'origin of the surplus'. However, while Turgot believes that the 'source of surplus value' is the 'fertile soil', Marx believes it to be, so to say, 'fertile concrete human labour'.

The reason to insist on these differences is not pedantic. As will be seen, they are quite essential for the understanding of a difference between Turgot and Isnard. The vague characterisation by Faccarello of the 'transformation problem' could also be said to cover the manner in which Isnard conceives the distinction between the production and the distribution of the surplus. However, the two qualifications above are useful in differentiating between Turgot's and Isnard's position. As we will see, like Turgot (and unlike Marx), Isnard considers the surplus as a physical magnitude whose production can be distinguished from its distribution. However, he dispenses with the idea that this magnitude is produced in any single sector or by any particular agent.

### 3.4 Morellet on the origin of the surplus

Much could be written about Morellet's opinions concerning the physiocratic doctrine of the

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57 This would seem to place Turgot squarely within the tradition of the 'surplus approach' to economics, since only in this approach does the idea of a fixed 'magnitude' existing prior to distribution make sense. Strangely enough, Faccarello presents Turgot's 'transformation problem' as an aspect of what he calls '*l'économie politique sensualiste*'. He uses this term to indicate a particular type of political economy which distinguishes itself from physiocratic theory by the stress it puts on subjective notions of utility underlying the concept of value. Apart from Turgot, Condorcet and Roederer, Condillac, Beccaria, Helvetius and Bentham (1992:255) are also said to take part in this 'school'. I would argue that the 'redistribution problem' could only pose itself to the first three writers insofar as they still adhered to Quesnay's particular view of the origin of the surplus.

58 The theoretical difference between labour values and prices arises in Marx's economics from the fact that he wants to allow for different organic compositions of capital in the various productive processes. As a result the more labour intensive productions would generate more than average surplus value. At the same time, the assumption of a uniform rate of return on capital invested requires a uniform distribution of surplus value. Hence the transformation from labour values into prices of production.

exclusive productivity of agriculture. His manuscripts contain a bewildering number of arguments with respect to the distinction between 'productive' and 'sterile' activities, which range from orthodox restatements of the view that 'the soil [...] is the unique source of renascent wealth and of revenue' (ms. 2512; cf. ms. 2509:125), to attempts to demonstrate that the simple transport of goods from one place to another 'creates' value. Since most of his manuscripts are difficult to date, it is hard to form a clear chronology of the evolution of Morellet's views on the issue. In any case, it would require a more detailed examination than can be offered here. In the present context a few brief observations must suffice.

First, in the *Prospectus*, the view of the economy as a reproductive system is expressed very well in at least one case. Morellet writes:

[...] an active capital gives some product which one can call *total product* [*produit total*]. The total product consists of two parts; one whose employment, use, [or] consumption is necessary to obtain a new total product [which is] similar to the preceding one, and which we can call for this reason *reproductive product* [*produit reproductif*]; the other whose use and consumption is not necessary to the regeneration of the total product. This latter part one should call net product [*produit net*] (Morellet 1769:201-2).

This is as clear and concise a characterisation of the reproductive process of the economy as a whole as can be found anywhere in the physiocratic literature.

Second, however, at least one unorthodox aspect should be pointed out. What Morellet calls 'reproductive product' (an uncommon term which beautifully captures the notion of circularity in production) does not necessarily stand for agricultural capital alone. He specifies that he considers an 'active capital' to be any capital which is '[...] applied to an enterprise of agriculture, mining, fishing [or] of Trade' (1769:201).<sup>59</sup> He suggests that like agriculture, 'trade' (a wide term which covers the activities of 'Merchants, Entrepreneurs of Manufactures etc.' [1769:339]) '[...] also has a net product and a reproductive product' (1769:338).

This isolated remark can mean several things. It may indicate a position close to that of Turgot who argues that while in non-agricultural activities there is indeed a regular difference between the exchange value of the advances and the sales revenue of merchandises, this difference is eventually 'paid out of' the agricultural surplus. Alternatively, it may indicate a more decisive defection from the physiocratic doctrine concerning the sterility of trade and industry.

Morellet's manuscripts provide ample support for either interpretation. For example, in ms. 2553, under a heading 'Capital, rents, interest on money' Morellet argues that

[e]very return [*rente*] is paid by a part of the revenue of the land. Any return, of whatever kind, does not only represent its capital in trade, but is the real product of its capital. Because if the capital would not produce the

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59 For a discussion of the distinction between 'active' and 'idle' capital in Morellet's and Turgot's work see section 7.3.1.

return, nobody would borrow it. Yet no capital can produce its return unless it draws it, ultimately, from the land, and consequently, unless it is applied by the cultivator in order to facilitate production [...] (ms. 2553:146).<sup>60</sup>

This argument is quite similar to that of Turgot and Le Trosne discussed in the previous section.

On the other hand, there are also discussions by Morellet of the sterility of industry and trade in which he suggests, or even very clearly states, that those activities are indeed 'productive'. There seem to be at least three different criteria which Morellet employs against the physiocratic doctrine of the exclusive productivity of agriculture. The first is that any activity which is necessary for the continuation of reproduction should be considered 'productive'; the second that human labour by virtue of changing the uses of primary materials is 'productive'; and the third, the fact that goods can be sold more expensively in one place than in another makes trade 'productive'.

The first criterion is perhaps the most interesting one. It is specifically used in a notebook entitled 'Two kinds of consumption, the one productive and the other sterile' (ms. 2501:1-12). Morellet starts by arguing that the annual product of the land of a country is divided between the farmer, the landowner, and the state. Not contesting the view that the agricultural product is equal to the annual product of the economy as a whole, he argues that part of *each* of the three shares into which the total product is divided is consumed productively. That is, it has to be employed in order to ensure reproduction. The farmer not only has to feed his animals, family and workers, he also has to buy instruments and services from the manufacturing class, which are '[...] necessary and effective means of reproduction' (ms. 2501:3). The landowner must also consider part of his share '[...] fertile and productive', namely that part spent on the upkeep of his property, which is necessary to keep it productive (ms.2501:3).<sup>61</sup> Similarly of the share received as taxes by the state '[...] all that is necessary to the general administration of society, to the internal peace and to its defense from foreign enemies can be regarded as contributing to regular production' (ms. 2501:8). Thus any expenditure and activity which in some way contributes to reproduction should be considered as 'productive'.

Interestingly enough, Morellet does not only use this criterion to criticise the physiocratic

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60 He continues on page 147: 'And one should not say that an entrepreneur of manufacture or a merchant etc. will pay that return [on money capital, *i.e.*, interest], because the entrepreneur and the trader can not have the means to pay the return but to the extent that the money which allows their enterprise has passed through the hand of agriculture, and is exchanged against the products of the soil. That capital will thus always have been employed in giving rise to [*susciter*] the products of the soil'. Cf. the discussion of the Turgot's and Morellet's idea of the 'true circulation of money' in section 7.3.2.

61 This idea is not completely absent in the physiocratic literature. See *e.g.* Quesnay 1766 (1962:159-60): 'The greater part of the expenditure of the *proprietors* is at least *sterile* expenditure; we can except only that which is undertaken for the maintenance and improvement of their property and for the expansion of its cultivation'. Cf. section 8.3.1.

distinction between 'productive' and 'sterile' activities, but also that used by Adam Smith. In manuscript 2521, Morellet argues that not only industrial workers are 'productive' since they produce things which are necessary to production,<sup>62</sup> he maintains that magistrates, doctors, and soldiers etc. are 'productive' too. This means that Smith is wrong to only call 'productive' the labour which is employed on objects which can be resold.<sup>63</sup> Morellet's criterion of 'productive' as "any activity which, if only in an indirect manner, contributes to reproduction" is quite interesting. It reminds of Isnard's position, although the idea is not formalised in the latter's manner (see section 3.5 below).

The second criterion used by Morellet, already figures in his defense of the physiocrats against Galiani's attack in the *Dialogues sur le Commerce de Grains*. Morellet seems to admit Galiani's view that the application of labour to primary materials in industry 'creates wealth': '[...] this wealth appears to be produced by industry, since it did not exist before industry was active' (Morellet 1770:186).<sup>64</sup> In effect Morellet only upholds the views of '[...] the partisans of the

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62 See e.g. ms 2521:115: '[...] men occupied in industrial works which make substances produced by the soil suited to the uses of man are necessary cooperators of production since without them the cultivator could not maintain his works and even his existence. They are therefore not sterile'.

63 See ms. 2521:117: 'I am surprised that that reproach of sterility [against magistrates, doctors, soldiers etc.] has been adopted by the judicious and profound Smith who otherwise rises forcefully against that part of the system of the *économistes* who reproach industrial activity for being sterile'. A discussion follows of Smith's criterion (pp. 118-120) which is concluded with the observation that '[...] those so called sterile professions can only be called such if one ignores their necessity to production. One has to consider all those who carry them out as really contributing, although not immediately, to production. The administrators of justice and all their agents by assuring the right of property in land which yields the produce, and of [the right of property in] moveable wealth which are necessary for maintaining it [*i.e.*, those rights], and of the personal security of the agents of production; the military man by defending that same wealth against the invasion of enemies from abroad; the doctor by curing; the priest and the man of letters by instructing etc. [121] I know very well that one can say that if there is no harvest there is neither government, nor military, nor judges, nor doctors, but on the other hand without defense, without judges, without instruction, without government there would be neither harvest nor society. One should regard all those estates of society as equally necessary to reproduction, at least as long as their number does not exceed the real needs, as equally necessary I say to production as the plough itself'.

64 The most important part of Morellet's discussion is on the pages 185-87: 'The product of industry, one says, has a value in excess of the primary material and the consumption of the workers. This ulterior value can not be overlooked since the produce of industry is sold dearer than the primary materials and the consumption of the workers sell for. This excess of value is wealth, since it renders the product more suited to satisfy the desires and needs of man, and since it is in the hands of the one who possesses it a means to obtain [other] very real wealth. Finally, this wealth appears to be produced by industry since it did not exist before industry was active.

There is in that objection a mixture of truth and falsehood which has to be recognised; and a dispute of words which makes the question interminable if one does not explain oneself more clearly. The product of industry has a greater value than that of the primary materials and of the consumption of the workers give it, and through that [additional] value it becomes a greater wealth. The reasons given is the objection [of the physiocrats] seem decisive to me. A substance which is shaped is more suited to satisfy the needs of man, and since it represents the price of the labour and time in excess of that of the primary materials and of consumption, it contains a value which did not exist before the *labour* and the *time* which one has expended on it.

But does this wealth owe its existence to the soil or to industry? It is a dispute of words in which nevertheless only the partisans of the exclusive fertility of the soil express themselves with precision. The first

exclusive fertility of the soil' with respect to the 'primacy' of agricultural production:

The first source of wealth is certainly the soil. Industry does indeed intervene by shaping the produced substance, but it can only work by employing and consuming the products of the soil (Morellet 1770:187).

However, he admits that ' [...] the product of industry has a greater value than that of the primary materials and of the consumption of the workers give it', for two 'decisive' reasons. They are:

A substance which is shaped is more suited to satisfy the needs of man, and since it represents the price of the labour and time in excess of that of the primary materials and of consumption, it contains a value which did not exist before the *labour* and the *time* which one has expended on it (Morellet 1770:186).

This may be interpreted as saying, first, that industrial activity alters the use value of agricultural products, and that this *does* affect their exchange value.<sup>65</sup> Second, it suggests that the 'source' of this additional value is 'labour and time expended'. In several manuscripts variations of this idea are developed at length. Judging by manuscript 2521, it seems clear that Morellet's (later) ideas with respect to the view that industrial activity creates value, are at least reinforced by Adam Smith's arguments against the physiocratic doctrine.<sup>66</sup> A large part of Morellet's long-winded argument in these later drafts boils down to the simple conviction that labour is an independent 'source' of value.<sup>67</sup>

The third criterion that by transporting goods to places where they are found more useful, trade 'creates wealth' is used by Morellet only in the context of foreign trade.<sup>68</sup> His argument appears to be mainly based on the observation that if, due to relative abundance, the local price [*valeur local*] of some commodity is lower in some place than the general price [*valeur general*] trade can 'create wealth' (see esp. ms. 2493:139). This is a rather 'unphysiocratic' conclusion, since

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source of wealth is certainly the soil. Industry does indeed intervene by shaping the produced substance, but it can only work by employing and consuming the products of the soil'.

65 Cf. Le Trosne (above p.79) who maintains that 'change of form' of goods leaves their exchange value unaltered. Morellet does distinguish quite clearly between the two aspects of 'wealth' and confirms that in both respects the 'value' of things (*i.e.*, their use value and exchange value) changes as a result of the activities of industry: 'This excess of value [caused by industry] is wealth, since it renders the product more suited to satisfy the desires and needs of man, *and* since it is in the hands of the one who possesses it a means to obtain [other] very real wealth' (Morellet 1770:186).

66 In ms. 2521 there is a long document in three parts with the title '*Question. l'industrie manufacturière est elle féconde ou sterile ?*'. The first part, pp. 45-93, is at least partly, written after 1800, because it defends Smith's views against a pamphlet published in that year (see also p.74). In the second part, pp. 93-129, Smith's work is also frequently referred to.

67 See e.g. ms. 2521:63: 'One can ask from which source this excess of value [in industry] comes. I respond that it is the value of the time [and] of the labour and the industry of man which realises itself like that of the primary materials and that of consumption goods used up by the worker'.

68 See especially in ms. 2493 the notebooks '*commerce source de richesse*' (pp. 124-132); and '*Le commerce apporte des richesses aux nations*' (pp.210-223). The arguments developed in these notebooks are also used by Morellet to demonstrate that industry is productive.

while the physiocrats do certainly not deny that traders can make money by exploiting local differences in prices, they explicitly do not call this the 'creation of wealth' (see section 4.2 esp. n.14). He also seems unable to explain why internal trade would not be 'productive'.<sup>69</sup> Here one should again keep clearly in mind that Morellet's attempts to make sense of the dichotomy 'productive' and 'sterile' activities are unfinished drafts. Perhaps the principal point which the various manuscripts highlight is that the issue posed great conceptual difficulties to Morellet and that he, similar to other writers, does not use one single criterion but many, often interchangeably.

### 3.5 Isnard on the origin of the surplus

By comparison, Isnard's views on the origin of the surplus are outstandingly clear. The first thing to note about his theory of production is that he maintains Quesnay's distinction between the total annual product [*la somme totale des richesses*],<sup>70</sup> the costs of production [*frais de productions*], and disposable wealth [*richesses disponibles*]. The physiocratic origin of these categories is evident in the following passage for example:

While one part of the goods of the land is destined for the maintenance and renewal of the funds of a new reproduction [*fonds d'une nouvelle reproduction*], or to establish new productive funds, there is another part which is absolutely free and destined to the needs and enjoyments of the people [...] Of those two parts of wealth, one fulfils the end of production [*i.e.*, consumption], and the other represents the means of production [*moyens de la production*] (Isnard 1781, I, 92-3).<sup>71</sup>

One of the few consistent discussions of these terms is in section 6, chapter II book I of the *Traité*. Isnard states that the necessary costs of production consist '[...] of the purchase of primary materials, which [the entrepreneur] has to employ or consume in [the process of] production, of the payment for the labour of the workers, and of fixed capital' (I,35). Each producer has to deduct these costs from the sales value of his output to obtain 'the portion which the owner can enjoy freely,

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<sup>69</sup> Morellet's arguments become rather confusing. For example he maintains that while through transport exchange value increases, because utility 'increases', the utility and exchange value of goods are still distinct properties. He states for example: 'It is not strange that the simple transport [of a thing] augments [...] the value [of the thing] by giving the thing all its utility, because although value is not utility, and utility is not the exact measure of value either, it is certain that, all other things being equal, the value increases when the utility itself increases although not in the same proportion' (Morellet ms. 2493:132). The insistence on the point that utility and exchange value remain different things may be motivated by his disagreement with Condillac (cf. note 25 above). In ms. 2526: 5-6, Morellet objects against the latter's opinion that 'value is uniquely founded on the utility which things have relative to the ones who exchange them'. Refuting an example by Condillac, he argues that the fact that the same goods may have different prices in different places can be explained by costs of transport.

<sup>70</sup> He also uses the alternative term *la masse générale des richesses* (e.g. I,37).

<sup>71</sup> Cf. I, 60: 'One spends in order to enjoy [final goods] or in order to reproduce. The expenditures of production [...] yield a periodical or continuous reproduction. This reproduction divides itself anew between production and consumption'. This statement introduces a long section (pages 60-108) dealing with the necessity of continued expenditure in order to guarantee reproduction in different sectors of the economy.



[which] constitutes the mass of disposable wealth; [...]’ (I,36).

On the one hand, Isnard adopts thus the notion of production as a circular process. On the other hand, he rejects without reservations the physiocratic doctrine of the exclusive productivity of agriculture in favour of a model of the economy in which both the agricultural and the industrial sector contribute to the creation of the disposable product of society. Isnard’s most basic argument against the physiocratic doctrine is placed at the very beginning of the *Traité*.<sup>72</sup> His point is a conceptual one, concerning the question ‘what is producing?’

According to Isnard, producing is giving ‘new useful qualities’ to things, which ‘give new enjoyments’.<sup>73</sup> Human agency is ‘productive’ in the sense that it can change the use value of natural materials.<sup>74</sup> Taking the example of a block of marble, Isnard argues that the useful qualities it receives from nature are those of being white, hard, large, square (*sic*). A sculptor which makes a statue out of the block, adds ‘new qualities’ to it: he makes it resemble something else, polishes it etc. ‘Man thus adds qualities to those of nature; those who maintain that human action is not productive, are thus wrong’(I,14).

Undoubtedly, Isnard’s point is directed against the physiocratic distinction between ‘creation of matter’ (of which only nature is capable), and ‘addition of matter’, or ‘change of form’ which natural products subsequently undergo through human agency.<sup>75</sup> Isnard does not admit a difference between agricultural production and industrial production other than that the former is primary (see below p.101). The point that all production is formally nothing but the ‘change of form’ of inputs is a first aspect of the numerical examples which he uses to characterise production.<sup>76</sup>

The simplest of these examples depicts an economy with two sectors, which are, in a

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72 Vol. I, chapter one, entitled: ‘Analysis of the use and the production of wealth’.

73 1781,I, 14: ‘des qualités usuelles, donnent des nouvelles jouissances’. Note that Isnard says the production of *new* useful qualities, and not the ‘increase of the utility’ of things. This is not an unimportant point. It suggests that production is a process in which goods undergo qualitative changes which make them suitable to satisfy *different* needs. Cf. section 2.4.

74 ‘Things have different qualities of which some are due to the action of nature, and other to the action of men’ (1781,I,13).

75 He briefly addresses the ontological argument of ‘people who say that only God produces, and that man does not produce’. According to Isnard, those people ‘confuse production with creation. Every particular action produces an effect; it is in that sense that man and natural agents produce. The [silk]worm produces silk and eggs through which he reproduces himself, the bee produces honey and wax, the action of a mill produces paper, oil, flour, bran etc.’ (I, 15 note a). He qualifies this view of production by remarking that the activities of animals do not really make them productive agents. ‘Their activities are so much subordinated to the active principles of the will and dexterity of men that they can be regarded as passive instruments, such as levers, wedges and wheels, or all those [things] which through their forms, magnitudes and their quantities becomes in the hands of men means which assist their forces’ (I,15).

76 He calls these examples ‘systems of wealth’ [*système de richesses*]. The example following in the main text is on page 36 of volume I; the other examples are on pages 40 to 42 of volume I (see note 10 of chapter 5 below), and pages 4 to 6 of volume II.

“surprisingly modern manner, described in terms of the inputs used up and outputs produced.

$$10 M + 10 M' \quad \text{produce} \quad 40 M$$

and

$$5 M + 10 M' \quad \text{produce} \quad 60 M'$$

In this example  $M$  and  $M'$  presumably stand for units of two kinds of 'wealth', that is 'a physical unit with a market value'. To some extent this can be said to obscure the fact that Isnard in effect distinguishes between the notion that in the production of commodities previously produced commodities enter which already<sup>77</sup> have an exchange value (or price), and the notion that in the same process those commodities (as use values) undergo a 'change of form' which results in 'new useful qualities'.<sup>78</sup>

If one first examines the latter aspect, what Isnard's example illustrates is the physical process of production in which use values are 'created'. That is, in each sector the combination of two kinds of use values results in the production of one kind of use value ( $M$  and  $M'$  respectively).<sup>79</sup> Some stress must be placed on the fact that is not clear in the example which is the agent responsible for the production of the new use values. It is not possible to say what sectors Isnard is referring to since he does not explicitly define what commodities  $M$  and  $M'$  are. One sector could be agricultural, in which case 'nature' and 'man' would be responsible, and the other sector could be industrial, in which case 'man' would be responsible. Isnard's point seems to be that it *does not matter*. It is worth stressing this, since he seems to be discarding a way of looking at the phenomenon of production which is not only typical for the physiocrats, but which appears in many later classical economists. It is the idea that it would be possible to single out in a process of

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77 For the importance of the word 'already' see note 87.

78 To distinguish between these two aspects, he could have written something like:

$$10 p_1 X_1 + 10 p_2 X_2 \quad \text{produce} \quad 40 p_1 X_1$$

$$5 p_1 X_1 + 10 p_2 X_2 \quad \text{produce} \quad 60 p_2 X_2$$

Jaffé (1969:21) complains that 'Isnard's algebra is as turgid as his prose [...] The symbol  $M$  sometimes denotes the physical measure of a unit of a given commodity, and sometimes the abstract (absolute) value of a unit of the same commodity'. Klotz (1994:36) agrees that Isnard is ambiguous in his use of the symbol  $M$ . According to the present writer this does not mean that Isnard is inconsistent. The symbol  $M$  appears to be used consistently for 'a physical unit of a commodity with a price'. Arguably the indiscernability of the physical unit from its price, is a result of the very doublesidedness of the the term 'wealth' in the physiocratic perception, expressing simultaneously the property of being a use value (*bien*) and exchange value (*marchandise*).

79 Two (obvious) technical points are that Isnard assumes fixed production coefficients, and single production.

production, using several kinds of inputs, one particular 'agent' to which the increase of use values is due.<sup>80</sup> In contrast, Isnard confines himself to stating that in production the combination of use values results in additional use values.

More precisely, in Isnard's perception of production the issue is not simply that productive processes yield more use values, or 'goods', than they start off with. Rather it is whether they yield enough to satisfy and exceed the material requirements of the economic system as a whole. To denote the physical amount of goods produced in excess of the reproductive requirements of the economy, he (sporadically) uses the term 'real mass of disposable wealth' [*la masse réelle de richesses disponibles*] (I,42). In the above example, as Isnard points out, it is 25 M + 40 M'.<sup>81</sup> Simple as it may be, this way of identifying the surplus can be considered as an improvement over Quesnay. Using Isnard's notation, the Formula version of the *Tableau* (see above p.74) may be rewritten as

2 A + 1 M produce 5 A (agricultural sector)

2 A produce 2 M (industrial sector)

where A is agricultural goods and M, manufactures.

Evidently the surplus then consists of 1 A and 1 M, which is indeed the composition of the consumption of the class of proprietors according to the *Tableau*. At the same time, it also makes blatantly clear what Quesnay is reluctant to admit, *i.e.*, that part of the produce of the 'sterile' sector enters into reproduction. Obviously, Isnard does not have the same inhibitions.

The factors determining the size of the 'real mass', or productivity in physical terms, are strictly a technical matter. Isnard argues that '[o]ne of the fundamental principles of political economy is to diminish the costs relative to reproduction' (I, 80).<sup>82</sup> This phrase betrays the

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80 Of course, as was seen above, the physiocrats and Turgot believe this agent to be land, and in Marx it is concrete labour which is seen as the only 'fertile' input. It may be said that in neoclassical economics, on the other hand, no single factor is recognised as the 'productive' input. However, in the latter body of theory it is assumed to be possible, by means of the concept of marginal productivity, to specify the contribution of each factor (labour, capital, land) to the increase in utility resulting from the process of production. In this sense the questions of the 'generation' of utility and its distribution are also intertwined in the neoclassical theory.

81 'Thus, to produce the total of the two products, a consumption of 15 M + 20 M' is required, and the value of disposable wealth is equal to 25 M + 40 M' (I,36).

82 Cf. Isnard (1787) in which he uses this phrase repeatedly as an expression for the general aim of the reform of the monetary system of France. He uses the same principle in his arguments in favour of labour saving machinery. See below chapter 6, note 72.

influence of Quesnay, who stresses the same principle (e.g. Quesnay 1766c:222). On this point Isnard is clearly struggling to liberate himself from the physiocratic perspective. He asserts: 'The total sum of disposable products depends absolutely [*i.e.*, in physical terms] upon the needs of *nature*; she requires a certain portion of the general mass of wealth; she leaves the rest to the enjoyment and the needs of man' (I,37; emphasis added). However, he also establishes the idea in more general terms: 'The industry that diminishes the costs of production, increases the total of disposable wealth, regardless of the variation in values' (I,37).<sup>83</sup>

A second aspect of Isnard's theory of production is his attempt to distinguish between the production of the physical ('real') mass of the disposable wealth and its appropriation through the assumption of relative exchange values (prices). He states:

[...] the total sum of disposable revenues of proprietors, is equal to the total sum of disposable wealth [...], regardless of the variations in values (I,37).

That is to say, there is a fixed physical surplus ('regardless of the variation in values') to be distributed among the different people who have contributed to production.<sup>84</sup> The distribution of the surplus is a matter of the relative prices prevailing in the market: 'the particular revenues of the producers depend upon the variation of values' (I,37). Or more clearly, '[...] the real mass [*la masse réelle*] of disposable wealth [...] will always be divided among those [producers] of whom the value of their products exceeds the value of their costs' (I,42).

This clear distinction between the physical surplus and its distribution according to relative prices, enables Isnard's refutation of the physiocratic idea that the whole surplus is necessarily appropriated by the 'proprietor class'. Using the above example, he argues that if one supposes that the exchange ratio between one unit of M and one unit of M' is 3:1 then the 'disposable revenue [...]' of the producers of 40 M will be equal to zero, and that of the producers of 60 M' will be equal to the mass of disposable wealth, 25 M + 40 M', or 48 1/3 M' [...] (I,36). In other words, at this relative price the whole surplus will be appropriated by the producers of M'. However, if one assumes that the exchange ratio is M:M': 2:1, then '[t]he producers of 40 M would have to incur the costs of 30 M [...] and could dispose of 10 M [...]; the producers of 60 M' would have to incur the costs of 12 1/2 M' [...], and could dispose of 47 1/2 M' (I,36).

According to Isnard, this demonstration shows decisively that

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83 The qualification at the end of the sentence makes it clear that Isnard means *physical* costs of production; *i.e.*, he should be understood in the following manner: "The industry which diminishes the physical quantity of inputs to obtain the same physical quantity of outputs, increases the total quantity of disposable things".

84 Isnard uses the term 'proprietor' for everyone who has to sell a 'property', that is landowners, capitalists, entrepreneurs, and artisans/workers. See chapter 5.

M. Quesnay and the *Economistes* were mistaken when they stated that industry is not productive. It is possible that the [industrial] works are not productive relative to the [industrial] workers [...]; but industry really produces useful qualities, and increases wealth by increasing the total mass of disposable wealth. When the value of labour surpasses the value necessary to the existence of the [industrial] workers, [then] industry is productive both relative to the [industrial] workers, and relative to other owners (I,39).

Here Isnard distinguishes between two meanings of the term 'productive'. That is, it can be argued that the phrase 'productive relative to the [industrial] workers' stands for "productive of exchange value", *i.e.*, "profitable". In contrast, the phrase 'productive [...] relative to other owners' refers to "productive of 'useful qualities', or 'contributing to the physical surplus'.<sup>85</sup> The latter is a technical matter, the former a matter of relative market prices.

Thus one can say that Isnard avoids the conflation of two ideas in the physiocratic defense of agriculture as the only 'productive' sector. That is, in the physiocratic literature it is often hard to distinguish between the idea that "only in agriculture the exchange value of the output (*produit total*) minus the exchange value of the inputs (*avances*) is larger than zero", and the idea that "only agriculture produces a physical output which is in excess of the economy's reproductive requirements".<sup>86</sup> Isnard, as we have just seen distinguishes between, and rejects, both ideas.

To avoid a misunderstanding, a point on which Isnard hardly offers clear ideas is which relative prices will prevail in the market under 'normal' circumstances, *i.e.*, in the long period. What can quite safely be said is that he assumes that the prices which prevail in the market do at least tend to cover the minimum costs of production for all products (see section 2.4). However, Isnard does not propose a clear-cut rule for the normal distribution of the surplus.<sup>87</sup>

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85 It is in this second sense that the following remark should be read: 'When a product does not yield a disposable revenue to its owner, one should not conclude that his activity is not productive; because it produces in reality a part of the things used up as costs, and a part of the things which will, through exchange, end up in the class of disposable things' (I, 38). In other words, producing use values and conducting a profitable activity are two analytically (and for unfortunate producers actually) distinct matters.

86 As we saw, Turgot and Le Trosne *do* make this distinction. Ironically enough, they use it to reach the opposite conclusion of Isnard, *i.e.*, that the fact that a non-agricultural enterprise may, or even normally does, 'make money' (appropriates exchange value in excess of the exchange value of its advances) does not alter the fact that only agriculture produces a physical surplus.

87 In the above example, the costs of production are covered in both sectors anywhere between the exchange ratios  $3 M = 1 M'$  and  $1 M = 10 M'$ . Outside these boundaries the system is no longer 'viable'. It is tempting to see a connection between Isnard's analysis of exchange and of production: market prices may vary but normally within boundaries given by the (prime) costs of production of commodities. Clearly, if Isnard had assumed that  $10 M + 10 M'$  produce 15 M, and  $5 M + 10 M'$  produce 20 M' then the marketed quantities would be  $(15-10) M$  and  $(20-10) M'$  and the exchange equation  $5 M = 10 M'$  satisfying continued production (cf. fig. 1 on p.21). However, Isnard assumes there to be a surplus. This precludes that there is a simple relation between Isnard's equations of exchange and production, (a view defended by Gilibert (1981) (1987); for a criticism of this interpretation see section 4.3.2 below). In order to *determine* 'normal' prices, Isnard would have had to adopt a rule for the distribution of the surplus. To find a long period exchange ratio he could have adopted the rule of a uniform rate of profit over the capital advanced in the two sectors. Using this rule for the distribution of the surplus it is not too difficult find the exchange ratio  $M:M': 1:0.4342585$ , which would ensure a uniform rate of profit of 178.9%. This speculation about what Isnard *could* have done is useful

Isnard's theory of production also has an important consequence for his perception of the circular flow. He straightforwardly accuses the *économistes* of not only making 'mistakes about the products of industry', but also of 'mistakes in the principles of the general circulation of wealth' (Isnard 1781 II, 8). Directly criticising the manner in which circulation is depicted in the *Tableau*, Isnard writes:

One could reproach them [*i.e.*, the physiocrats] for having pictured the owners of the land as seated on a throne distributing on either side salaries to the other classes, according to how they value their advances, their talents, their activity etc. They have not considered that according to their own principles about the freedom of exchanges, wheat is no more the payment [*le salaire*] of labour than labour is the payment of wheat, interest is no more the payment of the capitalist than the things which he produces are the payment of interest. There is exchange everywhere, it is in the exchanges that values are determined, it is through the values that each proprietor of labour, of products and of capitals acquires a part of the disposable wealth (Isnard 1781,I, 41 note).

Apart from throwing up a whole set of problems (what exactly does Isnard mean by 'labour', 'interest', 'capital(ist)') which will be discussed in later chapters, this passage quite clearly shows that Isnard objects to the idea that the circular flow starts in any particular economic sector. This is especially clear in Isnard's objection to the physiocratic use of the term *salarier*, 'paying'. In physiocrats this term normally denotes an intersectoral relationship. The 'classes' of farmers and landowners 'pay' or 'employ' the artisans, in the sense of providing them with raw materials and food as well as with the money demand for their products. It is against this use, or more precisely the uni-directional use, of the term that Isnard objects.<sup>88</sup> Again:

The *économistes* [...] have regarded the workers [*ouvriers travailleurs*] and the chiefs of enterprises as wage earners [*salariés*] of the farmers [*producteurs de la terre*] and the proprietors of lands [...] [But] the manufacturers and workers of industry are no more wage earners of the proprietors of land than are wage

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for several reasons. On the one hand, the fact that the just mentioned solution can be found with the aid of only one additional assumption, shows how surprisingly similar Isnard's portrayal of the surplus economy is to that of Sraffa (1960 ch.2). On the other hand, it should not be underestimated just how large is the conceptual leap of the assumption of a uniform rate over capital advanced. It requires a particular perception of the class relations within society as well a specific notion of capital (these aspects of Isnard's theory are discussed in chapter 5 and section 7.4.1 respectively). Moreover, the Sraffian solution requires the *simultaneous* determination of prices and distribution, which is no minor logical step. As we have seen, Isnard believes that relative prices are established in the market. Thus, when goods enter into a process of production they *already* have an exchange value. This seems to prevent Isnard from giving a *simultaneous* solution to the question of the pricing of physical quantities and their distribution as in Sraffa's theory. It should not be forgotten that in the latter theory the solution of the simultaneous determination of prices and distribution is not chosen on 'realistic', but on logical grounds, and abstracts from the real causal cycle of producing for the market - selling the produce - making new advances, in favour of a long period account of the positions to which a competitive capitalistic economy would tend.

<sup>88</sup> It has to be noted that this does not mean that Isnard uses the term in any consistent manner in the 'modern sense', *i.e.*, to indicate the wage relationship between entrepreneur and worker. Turgot, who also uses the term in the physiocratic sense, does start to use the term in the modern sense. This double meaning to the term *salaire* complicates the theory of wages. See chapter 5.

earners of one another. Farmers work for farmers, industrial workers work for industrial workers, farmers for industrial workers, and industrial workers for farmers. The proposition of the *économistes* would have some truth if artisans would generally be employed *servants* [*serviteurs gagés*] of proprietors of the land, but it can not be true in the case where the producers and the artisans are free men and where, the foodstuffs and merchandises are sold [...] in the open market (II:9-10).

It can be argued that what Isnard is saying is that the interdependency of the different sectors within the economy does not allow one to argue that one activity is not dependent on others while others do depend on it. In a word, he objects to the (convoluted) physiocratic argument that even though the economy is a circular flow of goods, agriculture is 'really' independent.

This does not prevent Isnard from admitting the *primacy* of the agricultural sector. He states for example:

It is evident that agriculture is the source of all wealth; one has to subsist before being able to enjoy and to work; there will be no artisan in a society unless the [quantity of] subsistence goods exceeds the necessary of the [agricultural] producers, and the artisans multiply relative to the increase in that difference (Isnard 1781, I, 52; cf. 60-1).

The phrase 'source of all wealth' [*la source de toutes les richesses*] in this passage is unfortunate, and is probably due to the influence of physiocratic phraseology on Isnard's writing. However, the subsequent sentences suggest that Isnard merely means that agriculture supplies all the food consumed in society, and it is in this sense one can say that agricultural production has to precede other economic activities.<sup>89</sup> At the same time, his view that industry produces useful things which are (partly) used in the production of other things, allows him to distinguish tolerably well between the 'primacy' of the agricultural sector and the 'interdependence' of all sectors.

A final important point against the depiction of circulation in the *Tableau*, is that it does not seem to incorporate the idea that products only acquire relative values when '[...] foodstuffs and merchandises are exposed in the open market'. It is significant that Isnard argues that the physiocrats are wrong 'according to their own principles about the freedom of exchanges'. Surely the physiocrats agree with Isnard that '[...] it is in the exchanges that values are determined'. However, they revert to the notion of the 'value at first hand', which in effect means that prices are fixed during the circulation depicted in the *Tableau*. This is indeed a limitation of Quesnay's model.

### 3.6 Conclusion

Only in Isnard's theory is the 'net' or 'disposable' product first unambiguously defined as the physical excess of the annual product of the economic system *as a whole* over the produce which

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<sup>89</sup> 'Agriculture and industry march at an equal pace in the production of wealth: but agriculture puts the first steps, and dictates the march of his companion' (I,78).

is necessary for reproduction (*avances*, or *reprises*) at the same level in future periods. However, it can hardly be doubted that Quesnay's theory of production exercised considerable influence on Isnard's conception. The latter's production equations can indeed be seen '[...] as further evidence of the importance of Quesnay's *Tableau* for the first description of the productive process in formal and quantifiable terms' (Ingrao and Israel 1990:63).<sup>90</sup> Two developments of Quesnay's theory of production are important.

First, in the work of Quesnay and his followers, including Turgot, the idea of surplus production as production in excess of reproductive requirements, is almost inextricably intertwined with the dogma of the 'exclusive productivity of agriculture'. Isnard's considerable achievement is that at the same time as rejecting the latter physiocratic article of faith (a step eventually taken by most economic writers in the last decades of the 18th century), he preserves the former notion (a respect in which he is arguably unique).

Second, Isnard puts forward quite clearly the notion of the *masse réelle* of the surplus as a fixed physical magnitude known prior to distribution. In a sense this idea is not all too different from the physiocratic *produit net*, although this notion is often expressed in value terms ('measured at first hand'). In Quesnay this magnitude is supposed to be appropriated in full by the class of landowners. However, Turgot, and in one notable case Le Trosne, show that the view that the surplus originates in agriculture does not necessarily prevent the idea that some of the surplus is appropriated outside agriculture. Their attempts demonstrate that an interesting distinction is made in later physiocratic literature between the *origin* and the *distribution* of the surplus. This distinction can be called a dissociation between the question whether a sector (or agent) contributes to the creation of the surplus (*i.e.*, produces 'goods', use values, in excess of the reproductive requirements of society) and the question whether agents or classes involved in this activity obtain some of the surplus. The latter question is addressed in the chapters 5 to 8, which examine the explanations of the income shares of the various economic 'classes' in the later physiocratic literature. First, however, we will discuss a number of economic phenomena which in the physiocratic scheme of things belong to the 'sphere of circulation'.

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90 This statement is followed by the conclusion that '[i]n this sense it can by no means be ruled out that they [*i.e.*, Isnard's calculations] may have offered an additional stimulus to the development of the theory of production in general equilibrium' (*ibid.*). This is a reference to Jaffé's argument that Isnard's theory of production anticipates that of Léon Walras. By linking the former's theory to Quesnay's depiction of production (something Jaffé does not do) Ingrao and Israel seem to confirm Schumpeter's view (1954:242) that the *Tableau* should be seen as an anticipation of the Walrasian general equilibrium model. For some good points of criticism on this view see Pressman (1994:171-3).



## Chapter 4. Circulation

### 4.1. Introduction

The physiocrats strictly separate the 'sphere of production' and the 'sphere of circulation'. For example, Le Trosne writes: '[...] beyond reproduction there is only circulation, and no increase in wealth; [...]' (1777a:321). This view is for the most part accepted by Turgot, Morellet and Isnard. Circulation can simply be described as the movement of products from producers to consumers. The opinion that 'no increase in wealth' takes place on this route does not mean that the writers under consideration show a lack of interest in the 'sphere of circulation'. It is true though that it informs their approach to the economic phenomena which belong to this sphere.

Two of those phenomena are the intermediary services of merchants and of money. The theoretical approach of the physiocrats to the study of these issues is well formulated by Mercier de la Rivière. First, he insists that in order to understand the essence of trade [*commerce*] it is important

[...] to only see in any commercial deal [*opération de commerce*] two men and two values: two men of whom one is the first seller, and the other the last buyer or consumer; two values of which one starts from that first seller to arrive at that last buyer-consumer; while another value, in exchange for the first, starts in its turn from the latter to arrive at the former. It is uniquely in that exchange that trade [*commerce*] consists [...] (Mercier de la Rivière 1767:538).

Of course, between the first seller [*premier vendeur*] and last buyer-consumer [*dernier acheteur-consommateur*] of a merchandise a merchant often intervenes as an intermediary agent [*agent intermédiaire*]. However, the activities of this latter agent constitute '[...] by themselves nothing but an intermediary movement between the place of production and that of consumption [...]' (*ibid.* 554; emphasis in the original).<sup>1</sup> Merchants are agents who 'buy in order to resell' and in doing so they make a living by benefiting from differences between prices at the moment of purchase and sale.

While accepting this general view, Turgot and Morellet emphasise the social usefulness of merchants in stabilising prices and assuring a constant demand for and supply of foodstuffs in an economy where trade is liberalised and competition strong.<sup>2</sup> The extent to which these opinions

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<sup>1</sup> While the first seller, or producer, and the last buyer, or consumer of a good are engaged in trade properly speaking (*commerce*), the merchant is merely engaged in the re-sale trade (*trafic*): '[...] on trafique quand on achète et revend' (Mercier.1767:551). The distinction between *commerce* and *trafic* is generally made in physiocratic theory (See Vaggi 1987:44-5).

<sup>2</sup> In section 67 of the *Reflections*, Turgot first distinguishes between different kinds of merchants, such as wholesalers and retailers. Subsequently, he asserts that they '[...] all have this in common that they *buy to sell again*'. This generic description of the nature of the activities of merchants is the same as that provided by the physiocrats. Merchants differ from producers in the sense that they sell goods which are physically the same as those they have bought. In this context, it is important to emphasise again that the adjectives

diverge from those of Quesnay is discussed below in section 4.2.

Second, for theoretical purposes one may also abstract from the intermediation of money. Mercier de la Rivière states that one can '[...] simplify things by supposing that exchanges are made in kind' and abstract from money which is an 'intermediary pledge' [*gage intermédiaire*] (1767: 542). This is allowed because

[w]ith money one buys merchandises, and with merchandises one buys money; thus, selling or buying, is always, [...] exchanging some value against some other value: whether one of those two values is money, or whether they are both useful merchandises, nothing can be more indifferent than that, since the one who receives money is not worse off than when he would immediately have received the things in kind which he can buy with that same money (1767: 543).

Of course, it is customary in society for buyers not to give commodities, but money, and for sellers to accept money in exchange for their commodities. The question in what sense money differs from (other) commodities is examined in section 4. The theory of commodity money adhered to by Le Trosne, Turgot, Morellet and Isnard (section 4.4.1), as well as the differences with the monetary views of Quesnay and his immediate followers (section 4.4.2) are also discussed.

In section 4.3, the significance of the exclusion of both the intervention of traders and money from the basic level of economic analysis is examined. It is argued that the principal theoretical merit of this abstraction is that it greatly aids the perception of the circulation of commodities. In particular, it highlights the interdependent nature of 'supply' or sale and 'demand' or purchase. This insight lies at the heart of the physiocratic 'theory of demand', a theory which is generalised by Isnard.<sup>3</sup>

## 4.2. Variations in market prices and the role of merchants

As noted in section 2.2, the assumption, commonly made by the physiocrats, of equality in exchange,

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'productive' and 'profitable' are not synonymous. The fact that Turgot allows that merchants normally earn an income in excess of the expenses of their trade does not necessarily imply that he believes that they 'produce' a surplus. Rather it implies that part of the surplus is 'transferred' to them.

<sup>3</sup> The two bold analytical simplifications of the physiocrats are particularly relevant to Isnard's theory. He introduces his algebraic analysis of how relative market prices are established between the marketed quantities of different goods (see sec. 2.4 above), by making the following qualifying remark: 'Here we will consider the direct exchange of commodities in general against other commodities in the same location, in order to investigate which values they have in terms of one another without the intermediation of money. We will only consider exchanges between the producer and the consumer, without considering all the exchanges undergone by a product [*denrée*] from its production to its consumption [...]' (Isnard 1781, I:18). The actions of merchants are treated by Isnard as arbitrage activities of limited theoretical significance. They are only discussed in a few short articles in chapter IV '*Du Commerce*', section II '*Du commerce dans son rapport avec le commerçant*'. See note 19 below.

or trade at uniform prices must be considered as an abstraction from the fact that prices actually vary considerably between various regions and periods. However, as is evident from the many physiocratic writings advocating the introduction of the free internal and external trade in corn, they certainly do not ignore such variations. The liberalisation of the corn trade forms the single most disputed economic issue in France during the 1760s and 1770s.<sup>4</sup> In this public debate, Le Trosne, Turgot and Morellet are among the liberal writers who are the most ardent supporters of the adoption of a *laissez-faire* policy in the grain trade.<sup>5</sup>

In this section, we are principally concerned with the theoretical mechanisms articulated by these writers to explain the tendency towards economy-wide uniform prices for the same commodities, and the role in this of merchants. Perhaps it can be said that the main theoretical argument which the physiocrats and their allies use in favour of the establishment of free internal and external trade in corn is that it is the single most important policy to ensure a more stable income for farmers. It will thereby ensure a more stable food supply for the population, and as such benefit the economy as a whole. According to the physiocrats, one of the main impediments to the increase of food production is the erratic variation of the prices which farmers receive for their produce.

As Vaggi (1983:3-8; 1987:62-70) shows, in 'Corn' and 'Men' Quesnay puts forward a detailed discussion, supported by calculations, of the causes and effects of variations in the prices of agricultural produce. He distinguishes between the *prix du vendeur*, or the price which farmers receive for their produce, and the *prix de l'acheteur*, or the price paid by the final consumers of the agricultural products. The difference between the two prices is explained by the intervention of the merchants who buy in the first-hand market from farmers and sell in the retail market to consumers.

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<sup>4</sup> A detailed, authoritative study of the social, political and economic background of the economic reforms of 1763-4 and 1774-6 is Kaplan (1976).

<sup>5</sup> Turgot's first main contribution to the attempts of liberal writers and officials to bring about a policy of free trade in corn and to influence public opinion dates from 1764 when he and Dupont prepare the Edict of 1764. In 1763, he establishes his friendship with Dupont, probably upon reading the latter's *De l'exportation et de l'importation des grains* (published 1764). (See Schelle, 1913-23:II, 48). In order to effect the strict enforcement in the Limousin of the edicts of 1763-4, Turgot considers it very important to persuade the population and especially the officials subordinated to him of the wisdom of the new policy. To this end he has distributed with copies of the edicts, Le Trosne's (1765) brochure, which is a clear exposition of the expected benefits of the liberalisation of the corn trade. (See Schelle, 1913-23: II, 48, 469-77; Dakin, 1939:97). The principal other contributions on the issue by Le Trosne are a number of articles in the *Journal d'Agriculture* in 1765 and 66, and his *Lettres à un ami* (1768). The 'Letters on the grain trade' form the principal writings of Turgot in favour of the liberalisation of the grain trade. These letters were written by Turgot in 1770, while on inspection tour through the Limousin to the Abbé Terray, the then controller-general (See Groenewegen 1977 xxx-xxxiii). Morellet's earliest publication on the issue is *Fragment d'une lettre sur la police des grains* (1764). The other two principal publications of Morellet are his *Réfutation* (1774 [1770]) of Galiani's *Dialogues sur le commerce des bleds* (1770), and his *Analyse* (1775) of Necker's *De la législation et du commerce des grains* (1775). Both were published while Turgot was controller-general. They were intended to defend his renewed efforts to establish free trade in corn.

According to Quesnay, the gains made by merchants arise from the circumstance that the fluctuations of prices in the former market are much greater than in the latter market. In the first-hand market, prices vary with the success of the harvest. Farmers having to sell their produce each year, receive low prices for their large harvests in abundant years and high prices for their small harvests in bad years. Taken over a period of five years they receive less annually than the average harvest valued at the average price, since the high prices in years with bad harvests do not compensate the low ones in abundant years. In contrast, because the merchants are confronted with a more or less stable demand in the retail market, they are able to sell agricultural produce at all times at the average price over five years.<sup>6</sup> In Quesnay's view, merchants are capable of profiting from their resale trade because of their market power. Unlike the poor farmers, rich merchants can afford to build up stocks, buying most produce in abundant years at low prices and selling continuously at average prices.

This precise examination of the internal grain trade in France is not repeated by Quesnay in his later economic writings. However, as is the case with his description of *la grande culture*, it shows how his later more abstract economic ideas derive from earlier more 'empirically orientated' studies. It seems very possible that Turgot in his seventh letter on the grain trade is inspired by Quesnay's earlier discussions in the *Encyclopédie* when he remarks that

[...] it can not be repeated too often that only the equality of prices causes the increase of the revenue of the cultivators, and that they are not compensated by a high price in the years of dearth, for the low prices of the years of abundance, because the quantity which they sell is proportionately far less than the rise in the price (1977:178).<sup>7</sup>

The one and only solution to reduce price fluctuations is the opening-up of markets. This will efface the regional differences in prices: low prices resulting from local abundance will be remedied by export from the region; high prices resulting from local scarcity will be remedied by import into the region.<sup>8</sup> The more local markets are taken up in ever wider international markets,

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<sup>6</sup> As Vaggi (1987:66) explains, Quesnay demonstrates this difference by numerical examples in which he assumes that the average price received by farmers over five years is a *weighted* average, while the price at which merchants sell is a simple average.

<sup>7</sup> The fourth letter has been lost. However, it has been summarised by Dupont (Schelle 1913-23.III: 274-85). It may have been inspired by Quesnay's 'statistical' analysis. Salvat (1996:73-4) suggests that Morellet is then influenced on this point by Turgot.

<sup>8</sup> See e.g. Le Trosne 1765:40-1: 'It is because the harvests are unequal, that the equality in price has to be reestablished by means of the freedom of trade: it is because they are unequal that a price has to be obtained which is sustained and advantageous to the cultivator in years of abundance, in order that he is capable of sustaining the loss to which he is exposed in bad years when the high price never fully compensates him for the small harvest [...] It is because they [the harvests] are unequal, not only when comparing one year with another, but also when comparing province with province, nation to nation in the same year that it is not only

the less will local scarcity and abundance affect prices. As Le Trosne (1777b:894) says, prices will 'equalize in the distance'.<sup>9</sup>

The harvests of Picardie influence the price of those of the Provence, and those of Poland the price of those in Spain. If transport is restrained by some obstacle, by some social disorder, the state of the local harvests influences the prices in a much more sensitive way. If I remove or add a bucket of water from/to a large volume, the difference is negligible; if I do the same to a barrel, it is very noticeable (1777b:894).

Le Trosne acknowledges that since many different factors affect market prices, '[...] value is never, and cannot be, fixed. [But] if you want to fix it as much as possible, establish then the greatest liberty of trade, and open up transports from everywhere' (1777b:895).<sup>10</sup>

The main effect of competition is thus understood to be the stabilisation of prices, brought about by communication between distant markets.<sup>11</sup> The agents who actually establish this communication are the merchants. At the same time, it is only the competition between the large number of traders engaged in free internal and external trade that can check the power of merchants. In this context, it must be pointed out that there is a notable difference between the appreciation of the role of merchants of Quesnay and that of Le Trosne, Turgot and Morellet. Quesnay, possibly appealing to age-old prejudices against merchants, argues that this profession always gains at the expense of both producers and consumers.<sup>12</sup>

The merchant tries to buy at the lowest possible price and sell at the highest possible price, so as to make his

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just but useful to everyone to enjoy a communication which is always open and always free'. It is quite clear that Le Trosne admits scarcity and abundance only as factors which can affect prices locally and temporarily. In contrast to Condillac, he does not see it as a general explanation of the value of goods. As an exception Le Trosne admits that scarcity does regulate the value of goods of 'luxury, curiosity, and pure phantasy' (1777b:894). The scarcity of some of these goods, like shells, will be lessened by increased offer, but for other goods, e.g. paintings by Rubens or by Le Suer, this is not possible, and scarcity will regulate their price. Thus Le Trosne exempts non-reproducible goods from the normal value analysis, as was to become a common feature in classical political economy. For other goods, scarcity is dealt with as a factor which can only help to explain temporary deviations of prices from their normal levels. Cf. note 25, section 2.2 above.

<sup>9</sup> Cf. Le Trosne 1765:46 : ' [...] uniformity in price is one of the great advantages of exportation'.

<sup>10</sup> Cf. Le Trosne (1768a) where he clarifies that '[...] the natural course of prices' (*ibid.* 104) will only take place if there are no obstacles to trade: 'I admit freely that the Law of freedom can suffer exceptions at any place where competition [*concurrence*] can not take place' (*ibid.* 109 n.). (Cf. Weulersse 1910 II:144).

<sup>11</sup> In order to promote the 'most complete competition' (Le Trosne 1777b:964), the physiocrats advocated not only the repeal of legal restrictions on the movement of corn and of privileges to some merchants, but also the improvement of roads and canals by the state (See Vaggi 1987:72, Le Trosne 1777b:902).

<sup>12</sup> It is true that Quesnay's view that the gain of merchants can only be at the expense of consumers and producers is supported by his economic theory. Merchants do not alter the quantity of products available for consumption, and therefore their gain is a cost either for the producer who gets a lower price, or the consumer who pays a higher price than the latter two would trade at if they could exchange directly. Cf. Vaggi (1987:44-45). At the same time, Quesnay's view of merchants confirms age-old popular and learned prejudices of them as parasites. See Beer (1917:57-8), Steiner (1994:214-17). Le Trosne (1777b:962) repeats the opinion that the mediation of merchants renders the price at first hand lower, and the retail price higher than they would have been in case of direct exchange. However, the passages which he devotes to the usefulness of traders have a much more positive tone.

gain as high as possible at the expense of the nation: his individual interest and that of the nation are opposed (1766b:164; cf. 1757a:72-3).

In contrast to this position, Le Trosne, Turgot and Morellet emphasise the beneficial social effects of the self-seeking behaviour of merchants. Interestingly, Le Trosne bases its social usefulness on what traditionally was seen as constituting the very odiousness of the resale trade, namely its speculative nature. In 1766, he gives the following neutral definition of merchants:

Merchants are [...] simply people who closely watch and study the local difference of prices, and who by their sales tend to efface this difference; and in this their service is truly and singularly useful (Le Trosne 1768b:216).

In 1777 he develops this point. First, he stresses that speculative traders 'play a kind of game of chance' in which they stand to win as well as to lose (Le Trosne 1777b:958). This is so because they do not set the terms of the trade themselves, but are subjected to what Le Trosne calls the 'law of prices'.

The merchant is, like any other [person], subjected to the law of prices [*la loi des prix*] which always precedes purchases and sales, and which rules them. Prices exist through causes anterior to the operations of trade. The whole art of the merchants consists in informing himself of the [prices] which exist in different places, in comparing them and knowing how to profit from the difference; a difference to which he has contributed nothing, and which his activity tends to efface. In fact, if an increase in value results from it [*i.e.* the merchant's activities] in the place of purchase, a lowering will result from it in the place of resale. The sum of prices remains therefore the same; the one rises only to the extent that the other falls. The merchant thus only studies the difference of prices in order to use it to his benefit; and if the causes of prices have changed during the interval of his activity, he can find himself to be losing instead of winning. From this activity results therefore only an egalisation of prices; an operation which is without a doubt very useful [...] (1777b:963).

Therefore, Le Trosne insists that merchants do not have more power over the prices at which they buy and sell than producers or consumers. It is perhaps this difference with Quesnay, who condemns the power of rich merchants in the grain market, that explains their difference in emphasis.

Second, Le Trosne describes the mitigating effect which the speculative trade has on market prices as a 'double service':

It is true to say that, in a sense, the profits in speculative trade are not at the expense of anybody. In fact, the merchant has bought at the current price, and has supported the value [of products] at a time or a place where they were [sold] at a lower price: he serves again the consumers by bringing back those same products in circulation at a time or a place where they are more expensive, he has thus provided a double service

The fact that in practice producers and consumers can normally not trade directly, means that the intermediary services of merchants are required to render the demand of remote consumers effective. For this reason, Le Trosne calls the activities of merchants the '*cause occasionelle*' of value (1777b:962).<sup>14</sup>

Likewise Turgot and Morellet also emphasise the 'social usefulness of merchants. Even more than Le Trosne, they stress the benefits of the merchants' speculative activities. They go so far as to suggest that provision should be left completely to these professionals. Morellet points out that the specialist knowledge required to judge about the spatial and temporal variations of prices constitutes a discipline all by itself.

The gathering of knowledge, which is almost always local, forms a very difficult and nimble science, which demand on the part of the Merchant a degree of sagacity, attention, intellect, activity, talent, genius even, which possibly is as rare as any other quality which nature and art can give to man (Morellet 1769:325).<sup>15</sup>

Interestingly, the acknowledgement by Turgot and Morellet of the specialist skills of merchants is used by them as a specific argument against government intervention in the grain market. In the seventh letter on the grain trade (1770), Turgot labours the point that the combination of the self-interest and the superior knowledge of merchants guarantees that they will do the best possible job

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<sup>13</sup> Cf. Le Trosne, 1766 (1768b:217): 'The profit [*bénéfice*] of the merchant does not prevent equality, because every market follows the law of the moment and the place'.

<sup>14</sup> Similarly, Mercier de la Rivière (1767:545) acknowledges that it is true that 'trade [commerce] enriches a nation'. That is to say, trade '[...] does not by itself procure an increase in wealth, but it is for [the state] a resource which permits its increase through cultivation'. The point that trade 'invites' production but is not itself 'productive' is interesting to compare to one of Morellet's attempts to define the latter term in ms 2493. There he argues against the physiocrats, that trade is 'productive' by virtue of the simple fact that it involves transport of goods to a region where they command higher prices. This throws doubt on the interpretation that Morellet adheres to the notion that value does not arise in the 'sphere of circulation'. It has to be borne in mind though that Morellet seems pretty confused about the content of the term 'productive'. In this case, it seems almost synonymous with 'profitable' (see above section 3.4).

<sup>15</sup> Cf. Morellet (1775:49) cited in Salvat (1996:94). Cf. Turgot 1753-4 (Schelle, 1913-23.I:381-2): 'All operations of trade have as their basis the exact knowledge of the value of goods and of all circumstances which contribute to the determination of that value, since it is upon the difference of the price of goods between different places and times, combined with the cost of transport and care that the trader bases all his speculations. [...] The science of the merchant which at first sight, appears limited to the knowledge of detail nevertheless becomes, by the multitude and linking of those details, an immense object'. The fact that Turgot expresses this view prior to his acquaintance with Quesnay is noteworthy. It seems likely that the emphasis by Turgot and Morellet on the idea that merchants possess specialist knowledge reflects Gournay's influence. In his 'In Praise of Gournay' (1759), Turgot highlights Gournay's large experience in and particular knowledge of trade.

at 'calculating the successive changes which determine prices'.<sup>16</sup> A practical conclusion drawn from this by Turgot and Morellet is that private grain stores run by merchants who are motivated by self-interest will be cheaper than public grain stores.

The faith of Turgot and Morellet in the superior ability of merchants to effectively stock grain forms quite a significant difference with Quesnay who suggests that in a liberalised economy rich farmers should take over this function possibly even making merchants redundant.<sup>17</sup> However, there is little difference between Quesnay, Turgot and Morellet concerning their view that the market power of merchants must be kept in check through the establishment of a high degree of competition. As Morellet writes, the introduction of complete freedom in the corn trade is

[...] the most certain barrier which one could oppose to the sale which is limited to a certain number of hands, and the most effective means to place the sale of corn in the hands of the greatest possible number of sellers, [then] one will not anymore have to fear that freedom will be followed by monopoly. [...] the [large] number of sellers which establishes itself as the sole result of the freedom to execute the sales and purchases between producers and consumers, although less than the number of sellers there would be under the hypothesis that every producer would directly sell to the consumer, brings about the best price for the producer and the reduction [in price] for the consumer (Morellet ms. 2500:6,12; cited by Salvat 1996:60).<sup>18</sup>

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<sup>16</sup> See Schelle (1913-23, III:322-8). There is a theoretical significance to the arguments used by Turgot on these pages. He specifically appeals to the difficulties of obtaining relevant information upon which economic decisions can be based. According to him, merchants are better informed about their trade, because it is in their own interest to pay close attention to particular facts. It is '[...] impossible that he [a civil magistrate] would know how to direct his funds so that they are spent on new purchases as they are repaid by sales, like a capable merchant does' (*ibid.*323). Neither can government control prices effectively: 'The administrator who believes he can control the movement of prices by calculations [about all factors which may influence market prices] would be like doctor Silva, who believed he could calculate the effects of blood letting by the speed and quantity of blood relative to the diameters and force of contraction of the arteries and veins' (*ibid.* 328). (Interestingly, Turgot is here probably alluding to the dispute between Silva and Quesnay on bloodletting, see Groenewegen 1997). Coordination in the foodmarket and the provisioning of the population at low and stable prices should therefore be left to the *Entdeckungsverfahren*, (to use Hayek's term) of merchants.

<sup>17</sup> This is Vaggi's interpretation of Quesnay's views. Quite differently, Morellet argues that in 'a system of full and complete liberty [...] the farmer would be relieved of that care [*i.e.*, the conservation of his harvest] by capitalists whose only application and occupation would be the preservation of the product of the harvest, [who] would take on the expenses to the benefit of the farmer, who needs all his time to attend to the reproduction, and would always attend to the reduction of the costs of this preservation. In a word, if one considers the preservation of corn as a [separate] task, more savings [*oeconomie*] can be made by having it done in large quantities of corn at a time, than by small scattered quantities' (ms. 2499:51; quoted by Salvat 1996:78). As Salvat (*ibid.*96) notes, Morellet's arguments in favour of the establishment of private corn stores are partly derived from Baudeau's *Avis aux honnêtes gens*. This highlights that it is dangerous to draw sharp distinctions on this point between the views of Morellet and Turgot and physiocratic theory generally.

<sup>18</sup> The conviction that the complete liberalisation of commodity markets (at least the markets in widely produced commodities, like food) will effectively destroy existing monopolies and prevent the emergence of new ones, is shared by the physiocrats and the writers under consideration with other liberal writers of the period. See e.g. Adam Smith, who names the 'number of owners' of corn and their 'dispersed situation' as factors which prevents monopolies; Condorcet (*Réflexions* 1776: 212, 214) gives the same reasons (see Rothschild 1992;1999). One of the best survey articles about the long tradition of monopoly theory in Europe prior to the Enlightenment remains De Roover (1951). The definition of the term monopoly is attempted by a number of French writers of the period. Morellet devotes an article to it, which was undoubtedly intended



The same conviction that the liberalisation of the grain trade will lead to a large number of sellers, leads Turgot to argue that individual merchants do not have any control over the prices at which they buy and resell.

The trader is a man who buys to resell and to resell with profit. Yet, he does not rule the price, neither the purchase [price], nor the selling [price]. Both those prices are ruled by the relation between offer and demand in the place where each sale takes place; thus the merchant has to comply with [s'arranger sur] that price which does not depend on him (Turgot, 1753-54).

Lacking market power, under conditions of full competition merchants are thus only capable of gaining from the resale trade through successful arbitrage.<sup>19</sup> At the same time, the combined arbitrage activities of merchants has the effect of effacing spatial and temporal price variations, reducing the opportunities to gain from arbitrage.<sup>20</sup>

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for his Dictionary (ms. 2500, notebook '*Commerce des grains: Monopole. Accaparement. Enharrement*'). Salvat (1996:59) argues that Morellet proposes two different definitions. First, 'monopoly' is defined narrowly as 'the sale of a merchandise by a single person', and second, more widely, it is said to denote 'the case in which a good which is sold by a number of men, which is not as large as what would be possible'. Perhaps it can be said that the first definition is merely a literal translation of the term, while the second is a (not very successful) attempt to give a more meaningful content to it. Interestingly, Condillac also gives both definitions of the term 'monopoly' (Condillac 1948:294 and 295). As Condillac explains, the definition 'there is a monopoly when the number of merchants is not as large as it could be' means that in some markets there may indeed only be one seller (for example when a painter has a unique talent) while in other markets (for merchandises which do not require rare skills) the 'possible number' of traders is large. In the latter market a monopoly is established through legal privileges. The same distinction between natural and legal monopolies is made by Quesnay (1766c:210). Isnard devotes a few short pages (1781, I, 161-4) to the term 'monopoly'. He simply states that '[l]e monopole est un fraude du commerce' (*ibid.* 161). Galiani gives a more meaningful definition, when he writes in 1770 in a letter: 'I understand by the denomination *monopolist* people who, having a great superiority in means, be it *wealth*, or *talents*, or *authority*, are capable to overpower and crush small traders, and can at the same time set the law, and trample on the miserable consumers' (cited by Salvat 1996:52). In contrast to the liberal writers Galiani has little faith that by merely establishing free competition monopolies would disappear.

<sup>19</sup> Isnard's treatment of the activities of merchants very much conforms to this. He states that '[a] merchant knows and foresees from his office the prices of the merchandises of different regions in he wants to trade; the relation [*correspondance*] between them directs all his activities [...] The gain of the merchant consists in buying in one place or time, in order to resell more expensively at another time or in another place' (1781, I: 155, 153). Isnard's views on this issue are not very remarkable. Still, one argument in favour of the activities of merchants is noteworthy since it is not often made. It is the argument that merchants improve the 'cash flow' of producers: 'When the merchant buys in order to resell in the same place, he guarantees to the producer the prompt reimbursement of his advances [*la prompte rentrée de ses avances*], and as such he is useful to the promptitude of the renewal of those advances' (*ibid.* 153). He further notes that '[i]t is necessary that the merchant recoups the interest of the capitals which he sacrifices to the purchases, the wage of his effort and that of the men he employs' (*ibid.*).

<sup>20</sup> Morellet highlights the difference between temporal and spatial price fluctuations in the market by suggesting that in economic theory one should distinguish between 'average price' [*prix moyen*], or the average of prices paid at different times, and 'common price' [*prix commun*], or the average of prices paid in different places: 'In that way the *average* price of wheat will be the one which exists between the highest price and the lowest price, to which the price is moved during a certain space of *time* in the same *place*. The

In this context an interesting theoretical question is what these writers believe to be the *normal* remuneration of merchants under competitive circumstances. The physiocrats do not go much further than asserting that competition will reduce the income of merchants to a 'minimum'. Presumably, they mean that only the costs of transport, including living expenses of the merchants and their dependents, tend to be covered. Le Trosne asserts, for example, that '[t]he more extended it [*i.e.*, competition] is, the more uniform the price is, apart from the difference [caused by] the cost of transport' (Le Trosne 1777b:912).<sup>21</sup> However, in some places he also asserts that in addition to his costs the merchant normally recoups a 'profit' [*bénéfice*] (1777b:963,973,974-5).

While this means that Le Trosne goes a little further than the other physiocrats, he hardly provides an explanation of what principle may rule this profit margin. It is on this point that Turgot's views are analytically superior. In the *Reflections*, Turgot states that merchants besides '[...] the wages and the price of their labour, their risk and their industry' have to obtain '[...] a profit equal to the revenue they would be able to acquire with their capital without any labour' (Turgot 1766:74).<sup>22</sup>

Without the assurance of this return, and of these indispensable profits, no Merchant would engage in commerce, nor could anyone possibly continue therein: it is from this point of view that he guides himself in his purchases, when he calculates the quantity and the price of the things which he can hope to sell in a certain period (1766:74-5).

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*common price* [is then] the one which exists between the highest and the lowest price at which the wheat is sold at several different places' (1769:127/28). Another interesting account of the fact that price fluctuations provide merchants with opportunities to gain from arbitrage is Auxiron, who writes: 'The exact measure of the perfection of commerce is the extent to which one finds variations in prices with regard to time and place. The more there are variations in prices, the less perfect is commerce'[...]:'The more there are inequalities in the prices of commodities in different places and periods, the more profit is to be made in commercial enterprises (Auxiron 1766:II,19, 41-3).

<sup>21</sup> This view is qualified by the remark that '[...] since transport can not take place without costs, competition does not normally establish the [price]level the difference which results from it [*i.e.*, transport], although it also often works without any consideration for it' (1777b:895). Cf. Mercier de la Rivière (1767:559 ff.).

<sup>22</sup> This is a clearer statement than his remark in 1753-4 that the price which the merchant receives must cover his subsistence and the maintenance of his trade' (see section 2.3.1 above). The 'normal' profits in commercial enterprises are also discussed in the seventh letter on the grain trade (1770). He argues that '[w]ith freedom trade will establish itself; and with [the opening up of] trade, prices will everywhere place themselves at such a level that the difference in prices between the country where the price is highest and the country where it is the lowest will never be greater than the costs and the risks of transport plus the necessary profit of the merchant, which is reduced to a little more than the interest on his advances. Equally the warehouseman [*magasinier*] has to find in the sale of his grains, beside the price of the original purchase, the costs of safe keeping, of losses and the interest on his advances with the normal profit of trade. But that price can never be higher than the one which results from the costs of transport, because if it were higher one would import and that would lower the price' (Schelle, 1913-23, III:322).

Turgot's is an early statement of the important theoretical notion that under competitive circumstances the speculations of merchants would tend to yield a normal return on their invested capital. However, Turgot is not the first writer who express this idea in unambiguous terms. In a little noted passage dealing with the activities of merchants, Auxiron essentially draws the same conclusion. Auxiron argues that

[...] if trade is very contracted, the large profits which are to be made [in trade], will engage [people] to flow into [this occupation], and to inject funds into it, until those profits become so proportioned to the dangers, to the expenses, to the outlays and efforts, that it appears more or less indifferent whether to employ one's money there, or to lend it out [*mettre en contrat*], or to look for other markets [*débouchés*] which may be found in the state (Auxiron 1766, II, 43).

This statement suggest that the profitability of different activities in the economy are interrelated, and that there exists a tendency towards an equalisation of returns on capital in the economy. At the same time, it is also the only clear statement in Auxiron's work which identifies the (theoretical) existence of such a tendency.<sup>23</sup> In contrast, Turgot develops this idea quite brilliantly in his theory of capital (see section 7.3.3). The theoretical understanding of the phenomenon of competition of Auxiron and especially Turgot can be said to go beyond that of most writers of the period for whom it is almost exclusively the force which tends to bring about market uniform prices for the same commodity. While the latter effect of competition belongs to the 'sphere of circulation', the notion that competition would tend to establish a uniform rate of profit relates to the issues of 'capitalist' production and the distribution of incomes. These will be examined in later chapters. Confining the discussion for the moment to the circulation of wealth, one can take the step of abstracting from the intermediary activities of merchants.

## 4.3 The Role of Demand

### 4.3.1 'Consumption is the measure of reproduction'

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<sup>23</sup> Auxiron's statement predates that of Turgot. The *privilege du roi* in *Principes de tout gouvernement* is dated 27 May 1766. Turgot wrote his *Reflections* in the last few months of the same year. Auxiron claims that the phenomenon described in the passage cited in the main text is merely one instance of his 'law of equilibrium applied to trade' (1766 II, 41, in margin). However, this 'law of equilibrium' states that under free competition the relative prices of commodities will express 'equality of benefit [*profit*] by equal effort [*travail*]' (I,16). In effect, Auxiron puts forward a primitive labour theory of value in which the direct labour effort is assumed to determine the value of a commodity. In this theory, little attention is paid to capital. That under normal circumstances relative prices express equality in terms of return of money advanced in different activities is (apart from the passage above) not understood to be the content of the 'law of equilibrium'. (For another possible exception see I, 70-1). As will be argued in section 8.3.3.1, Auxiron's work is more interesting with respect to the implications for the theory of rent.

The analytical merit of this abstraction is that it allows one to focus directly on the relation between the consumption, or 'demand for', and reproduction of commodities. The most fundamental notion of the physiocrats with respect to market demand is that the capacity of consumers to purchase commodities is based on the income they derive from selling commodities. This notion is most concisely expressed in Mercier de la Rivière's maxim that

[...] *nobody is buyer but in so far as he is seller; and since buying is paying, nobody can buy but by virtue of that what he sells* (Mercier de la Rivière 1767:540-41; emphasis in original).<sup>24</sup>

It is an insight, however elementary, which is intimately related to Quesnay's view of the economy as a circular flow of commodities: the sale of the produce of producer A allows him to become the buyer-consumer of the marketed produce of producer B, who in turn can become the buyer-consumer of the marketed produce of producer C etc. The reciprocal relation between production and consumption in the economy as a whole is unambiguously stated by Le Trosne:

Reproduction and consumption are reciprocally the measure of one another. Although everything proceeds from reproduction, since it is her which decides about consumption and the means to pay for her, these two causes react upon one another. *Reproduction is the measure of consumption, and consumption is the measure of reproduction* (Le Trosne 1777b:898; emphasis added).<sup>25</sup>

The *vice versa* which Le Trosne places in front of the more well-known statement that 'consumption is the measure of reproduction' is significant since it suggests that the physiocrats did indeed grasp perfectly well what is called Say's equality, *i.e.*, that it would at least in principle be *possible* for a given marketed output to be purchased by the income generated in its production.<sup>26</sup> Furthermore, Le Trosne also uses the phrase that '[...] products can only be paid for by products' [*les productions*

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<sup>24</sup> Cf. 1767:545: 'From the fact that every buyer has to be a seller, and can only buy as much as he sells, a second axiom follows evidently : that is that *every seller must be buyer, and that he can only sell as much as he buys*; that thus *each seller, by means of the purchases which he makes in his turn, has to supply others with the money to buy the commodities which he wants to sell them*' (Emphasis in original).

<sup>25</sup> This thesis is further explained in the following manner: 'It is easy to conceive that reproduction is the measure of consumption; but how is it that consumption influences reproduction so strongly? It can only be insofar as it [*i.e.*, consumption] becomes useful to those who cultivate the products. Without that [effective consumption] they would not work to multiply them [*i.e.*, products] beyond their personal needs. Only the desire for enjoyment can engage people to cultivate for themselves and others. For enjoyment one needs other people of whom one buys works [*i.e.*, manufactures] by means of [agricultural] products, and that one pays for their expenses. In this way one enjoys, in a new form, that surplus which would become useless if others would not consume it. It is thus the advantage which the proprietors of products find in having them consumed by others, which engages them in expanding cultivation indefinitely, as long as there is no lack of people who demand for consumption, and who will offer in exchange agreeable services to those who can pay for them' (Le Trosne, 1777b:898).

<sup>26</sup> Cf. Say, *Traité* (1803:180) ' [...] *qu'une nation a toujours les moyens d'acheter tout ce qu'elle produit*'.

*ne se payant qu'avec des productions*], which is worth noting since J.B. Say later uses the identical words when formulating the famous law of markets.<sup>27</sup>

Nevertheless, there are no doubt significant differences between the views of the physiocrats about the relation between consumption and reproduction and those of the classical authors of the 19th century. Most of the latter did not question the validity of Say/Mill's law of markets. In the first place, the physiocrats' notion of the circular flow is peculiar in the sense that they maintain that both all the goods that are being sold and the 'means' with which they are bought originate in the agricultural sector. Second, the physiocrats persistently stress the primacy of consumption over reproduction. This is the reverse order of that stated in the law of markets.<sup>28</sup>

There can be little doubt that the reason for the latter emphasis is that the *économistes* are convinced of the fact that interruptions to the circular flow are possible and can be persistent (cf. Spengler 1945). In fact, Quesnay and his followers are of the opinion that the main reason for the underdeveloped state of the French economy in their time is the lack of a sufficient effective demand for agricultural products. Without effective demand, agricultural production will remain depressed, because '[...] it is through consumption that products perpetuate themselves, that they have an exchange value [*valeur vénale*] and that they are wealth [*richesses*]' (Quesnay INED II, 629; cited by Vaggi 1982:71). Similarly, Mercier de la Rivière states famously:

*Consumption is the measure of production*, because the products which will not be consumed, will perish as superabundance, without utility, without value; and as a result one will stop to advance [funds] for their

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<sup>27</sup> Marx (1867, I:161 n.1.) quoting Le Trosne's phrase points this out, and comments that Say '[...] turned to account the writings of the Physiocrats [...] for the purpose of expanding the "value" of his own'. Spengler (1945) puts forward the same view. He suggests that despite Say's 'hypercritical' (*ibid.* 344 n.191) reading of the physiocrats, and the fact that he formulates his law primarily against the *économistes* and their later followers, like Garnier, it was in fact the emphasis on the circular flow to be found in the physiocratic literature which inspired him. Similarly, some phrases used by James Mill in *Commerce Defended* (1808), in which he opposes English neo-physiocratic writers, like Spence and Lauderdale, are not dissimilar to formulations employed by the physiocrats. For example, he writes: 'When money is laid out of the question, is it not in reality the different commodities of the country, that is to say, the different articles of the annual produce, which are annually exchanged against one another?' (Mill, 1808:83). The physiocrats would have fully agreed. While this does not mean that they formulated the law of markets, they did focus attention on the more fundamental notion of the circular flow. Before maintaining that no interruptions to the circular flow can persist, one would first have to have a clear perception of the latter. It is in this sense that Spengler rightly maintains that '[...] it is in the physiocratic conception of circular flow that Say's law and Lord Keynes's theory had their origin, even as did Marx's scheme of "simple reproduction"' (Spengler, 1945:193). On these points, see also Meek (1962:313-44), Johnson (1966), Sowell (1972:24-6).

<sup>28</sup> Only James Mill and J.B. Say clearly assert the primacy of 'supply', that is production, over 'demand', or consumption. Mill's earliest statement to this effect appears in *Commerce Defended* (1808) where he writes that '(t)he production of commodities creates, and is the one and universal cause which creates a market for the commodities produced'. Say writes in the first edition of the *Traité* (1803:175): 'In order to consume one has to purchase; yet, one can only purchase with what one has produced. Is the quantity of products demanded thus determined by the quantity of products created? Without a doubt'.

As has often been noted, several factors are understood by the physiocrats as being disruptive of continued agricultural reproduction at the existing level: the class of landowners (the only class which has 'discretionary' spending power) may spend too small a proportion of its rent income on agricultural produce, spending lavishly on luxurious manufactures instead (the so-called *luxue de décoration*);<sup>30</sup> money may be withdrawn from circulation in order to form 'monetary fortunes' (see below, section 4.4.2). Several government policies may also reduce the effective demand for agricultural products, e.g. it may enforce an arbitrary regime of indirect taxes, or maintain restrictions to the free internal and external trade in foodstuffs.

The depressed level of agricultural production, which is the result of the combination of these factors, has as a consequence that the domestic market for agricultural output is depressed, both because the size of the population is held in check by the limited food supply, and because the existing population is largely poor and incapable of buying food at prices favourable to farmers.<sup>31</sup> The levels of consumption and production have a reciprocal influence on one another. Consumption induces production, and production in turn provides the means for consumption. If either of the two is affected, the economy can either end up in a downward spiral, or in a 'circle of prosperity'.<sup>32</sup>

In order to break the 'equilibrium of misery and degradation' in which French society is caught up, the physiocrats regularly advocate the export of agricultural products to benefit from the demand of foreign consumers, which can compensate for the lack of effective demand in the

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<sup>29</sup> Cf. 1767:493: 'When we say that consumption is the proportional measure of reproduction, one has to understand by this a consumption which is profitable to those [men] whose outlays and labour reproduce products: a consumption which does not give them [the producers] any utility, will certainly not make them decide to work and spend in order to renew the things which have been used up'.

<sup>30</sup> See note 41 below.

<sup>31</sup> For this interconnection see e.g. Le Trosne (1777b:897): 'It is not only the [size of] the population, but [also] the affluence or the misery of that population which decides about the effective consumption [*consommation effective*] and about the price at which it takes place'. These latter two factors in turn depend on agricultural production, since it is the state of reproduction '[...] which decides about the faculty of consuming, not only for the people who cultivate the products, but for the whole society: because taken in its totality, she has only the annual reproduction to spend' (*ibid.*896).

<sup>32</sup> The fact that the physiocrats acknowledge the possibility that a deficient effective demand can lead to a persistent and uncorrected decline in economic activity that several commentators have likened their analysis to that of Keynes. See e.g. Vaggi (1987:108); and especially Pressman (1994:173-4) who further likens Quesnay's *Tableau* to Harrod and Domar type models in particular with respect that 'economic decline is not self-adjusting, but continuous' [*ibid.* 174-6]. It is also the principal reason given by Vaggi (1987: 213, n.15) why the physiocrats did not anticipate Say's Law of Markets: '[i]n physiocracy there is no automatic mechanism which guarantees that the entire production will be sold. It is demand which sets the pace of production and not vice-versa'. Vaggi is correct, and his view does not differ substantially from that of Spengler (cf. note 27 above).

domestic market. However, this reliance on foreign demand is also seen as a 'necessary evil' that is no longer required once agriculture revives and domestic consumers become richer. (The fact that the large mass of consumers of the lower ranks of society need to be able to earn sufficient incomes to ensure both a sufficient effective demand to producers and an adequate subsistence for the population is a point which is stressed by the physiocrats and Turgot in their discussions of wages. See sections 6.2.1 and 6.3 below). Production can only be revived by first reviving consumption. In order to achieve the latter, Le Trosne suggests that all that the government has to do is to conform to the 'laws of order' since

[...] a poor nation is necessarily a nation of which the administration has been since long contrary to the order, in which a thousand alien and artificial causes have come to derange exchange relations, in which indirect taxes and prohibitions to trade destroy demand [débit] and value (Le Trosne 1777b:899).

While the physiocrats certainly do not formulate the law of markets, their insight that '[r]eproduction is the measure of consumption, and consumption is the measure of reproduction' has an important consequence for the content of the term 'demand' [débit] in their theory. It is not understood to denote the sum of *potential* or *generic* 'needs and desires' in the economy. Instead 'demand' stands for 'actual demand', or the demand for goods backed up by the means to pay for them. In the physiocratic literature this perception of 'demand', as the actual capacity to buy, is expressed by a number of terms, namely 'money demand', [*recherchées pour de l'argent*] (Quesnay 1757b:92), 'the means to pay' [*les moyens de payer*] (Le Trosne 1777b:898, 963), 'the capacity to buy' [*la faculté d'acheter*], and 'the capacity to consume' [*la faculté de consommer*] (*ibid.*896).<sup>33</sup>

Each of these terms highlights that in physiocratic theory 'demand' (débit) stands for the quantities actually demanded *at the prices which are current in the market*.<sup>34</sup> 'Actual demand' may

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<sup>33</sup> For a further examination of these terms see Vaggi (1982:70), and (1987:106).

<sup>34</sup> A similar term to the French *débit* is the English term *vent*. John Locke states that '[t]he Vent is nothing else but the passing of Commodities from one owner to another in Exchange' (Quoted by Bowley 1973:79). In *Money and Trade Considered* (1705:5) Law criticised Locke for using the term 'vent' instead of 'demand', since '[t]he Vent of Goods cannot be greater than the Quantity, but the Demand may be greater [...] So the Prices of Goods are not according to the Quantity in Proportion to the Vent, but in proportion to the Demand'. According to Law, there is thus a difference between 'buying' and 'demanding'. It is not completely clear whether Law uses the term 'demand' in the sense of 'absolute demand' or 'demand backed up with the means to pay'. The latter is the most likely, and it is probable that Law's distinction between 'vent' and 'demand' is based on the common-sensical observation that in a concrete marketplace the actual demand for a commodity may very well exceed the actual supply at some initial existing market price. It is doubtful whether the possibility of such a discrepancy has ever been doubted by any economic theorist. The physiocrats certainly did not deny it, nor the utterly unsurprising consequence that the market price would increase as the result of such a local scarcity. It can nevertheless be argued that their use of the term *débit*, in which the amount bought and sold are not distinguished, clarifies rather than obscures the meaning of 'demand' in their theory. Not only do they state the tautology that every act of purchase by one trader is a sale by another trader at the same time,

be distinguished from 'effective demand', or to use the term sometimes used by Quesnay and Le Trosne, 'effective consumption' [*consommation effective*] (Le Trosne 1777b:897). Quesnay asserts that

[i]t is never actual demand [*le débit*] which lacks, but it is the price. One can always sell at too low a price [*débiter à vil prix*], because the consumers always greatly exceed the effective consumption (Quesnay 'Du Commerce' INED II, 824; cited by Vaggi (1982:75).<sup>35</sup>

'Effective consumption' is the demand for (agricultural) products at a price which is favourable to producers, and allows them to maintain or expand production; '[...] the demand at a good price [*débit à bon prix*] is at the same time the effect and the cause of a large reproduction', Le Trosne (1777b:901) writes. The 'bon prix' is

[...] a constant value, uniform, product of a large consumption, which proceeds from the general affluence, which only experiences the variations of the physical order, and which are rendered almost imperceptible through the facility of transport; which is maintained by the liberty and immunity of the internal and external trade, and which embraces all products (1777b:901).

While Le Trosne even states that in a freely competitive economy '[...] a natural order of the level of prices' would establish itself (1777b:900; cf. 1768a:106), it has to be noted that the 'bon prix' differs from Smith's 'natural price'. The latter is also a price which will induce producers to continue to bring goods to the market. In that sense the physiocratic notion of 'effective consumption' as 'demand at *bon prix*' is similar to Smith's 'effectual demand' which expresses 'demand at the natural price'. However, the 'natural price' in Smith is a price which includes a normal rate of profit, while the profit margin in the *bon prix* is indeterminate.<sup>36</sup> Smith's view that producers increase their supply only up to the point where they receive the 'natural price' for their products, differs from the physiocrats. The latter seem to assume that farmers continue to increase

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they also emphasise that every act of purchase requires a prior act of sale. In the aggregate, the quantity of commodities put up for sale is both the actual 'supply' (Quantity) of commodities and the actual 'demand' (*Vent/Débit*) for commodities. The fact that the 'Vent of Goods cannot be greater than the Quantity' is amendable to physiocratic theory.

<sup>35</sup> I translate *débit* as 'actual demand' to distinguish it from 'absolute demand'. Three separate notions of 'demand' can thus be distinguished: 1) 'absolute demand', or the willingness to consume an object regardless of the question of the object is affordable; 2) 'actual demand', or the absolute demand for an object backed up by the means to pay for it at the going market price; and 3) 'effective demand', or the demand for an object at a price which covers the seller's costs of production. As will be argued in the next sections, these distinctions are pertinent to Isnard's views on demand as well. The distinction between the first two notions is the same as that between *besoin* and *offre* in Isnard (*besoin plus faculté* equals *offre*). The distinction between the second two notions is that between market price and necessary price. See sec. 4.3.3 below for a comparison to Smith's notions of demand.

<sup>36</sup> See also section 7.2.2 below.



their supply to the market as long as they receive a *bon prix*. These points are helpful for interpreting Isnard's views on the role of demand.

### 4.3.2 'Actual demand' in Isnard

Like the physiocrats, Isnard maintains that consumption is the 'goal' of production, and that the quantities produced in the economy adapt to the 'effective demand' for them.<sup>37</sup> Isnard's views on the role of 'demand' can be interpreted as a generalisation of the physiocrats. To appreciate the similarities and differences between the views of the physiocrats and of Isnard with respect to the role 'demand' plays in the economy it is helpful to recall the general system of market exchange ('as many equations as there are commodities') which Isnard envisages<sup>38</sup>:

$$\begin{array}{ccccccc} x_A = & * & + & ax_B & + & \dots + & ax_N \\ x_B = & bx_A & + & * & + & \dots + & bx_N \\ : & : & & : & & & : \\ x_N = & \frac{nx_A}{x_A} & + & \frac{nx_B}{x_B} & + & \dots + & \frac{*}{x_N} \end{array}$$

(where  $x_A$  to  $x_N$  are the marketed quantities of the various commodities, and  $a$  to  $n$  are the quantities offered to obtain some of commodity A to N; for

every  $x$ ;  $\sum_{i=a}^n = 1$ ).

This system may be seen as a generalisation of the physiocratic maxim that 'nobody is a buyer but in so far as he is a seller'.<sup>39</sup> That is, every buyer derives the 'capacity' [*faculté*] to purchase commodities which he does not possess, from selling commodities which he has produced in excess of his own consumption. One may call the quantities on the left-hand side of the equations the 'actual supply' in the economy (actually marketed and sold goods). The sum of all the quantities on the right-hand side of the equations can be called the 'actual demand' in the economy. Since all the fractions  $a$  to  $n$  of each individual type of commodity add up to 1, total 'demand' equals total 'supply'.

<sup>37</sup> Cf. section 2.4 above. Also see e.g. (1781,II:6) where Isnard argues for a structure of taxation (levied on the disposable income of any 'proprietor') which does not affect '[...] the order of productions conform the needs'.

<sup>38</sup> Cf. section 2.4 above.

<sup>39</sup> Cf. Mercier de la Rivière (1767:544): '[...] with respect to trade (*commerce*) a nation is just a body composed of many people who each individually can only pay the price of what they purchase with the price of what they sell; [...] the number of millions of people gathered in a nation does not provide them the means to raise themselves above the *impossibility to give what they do not have*' (Emphasis in the original).

Clearly, an important difference with the physiocratic views on 'demand' is that Isnard offers a disaggregated picture of the structure of demand. That is, every row may be said describe the 'actual demand' for a particular commodity (e.g. the 'actual demand' for  $x_A$  is  $ax_B + ax_C + \dots + ax_N$ ). This difference may be explained in the following manner. As Vaggi (1987:120) notes, '[t]he physiocratic notion of demand emphasises the macroeconomic aspects of demand', since they are almost exclusively concerned with the study of the conditions which assure a sufficient 'effective consumption' for the produce of one single sector in the economy, agriculture.<sup>40</sup> While Isnard does not state this in so many words, it can be argued that his attempt to apply the same reasoning to *any* commodity is an implication of his rejection of the physiocratic doctrine of the exclusive productivity of agriculture (see section 3.5 above).

As a result, Isnard's analysis of the 'spending patterns' in the economy is much more complicated than that of the physiocrats. In the various *Tableaux*, Quesnay simply assumes that the appropriate spending pattern of landowners, (the only class which has discretionary spending power) consists of spending at least half their income on agricultural products.<sup>41</sup> In addition, the spending patterns of consumers are not assumed to influence the prices of agricultural goods, only the quantities sold.<sup>42</sup> Isnard takes a different view in both respects: the spending patterns of all buyers matter, and changes in these patterns can affect the relative market prices of all commodities.<sup>43</sup>

He specifically provides an algebraic illustration of this idea when he states that it is easy to show that relative prices change solely as a result of a change in the pattern of demand.<sup>44</sup> Using

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<sup>40</sup> Since the physiocrats also maintain that agriculture provides all the 'means' to the rest of society to purchase the agricultural produce, (cf. section 3.2 above), the 'reproduction' and 'consumption' of society appear to normally stand for aggregate magnitudes in the physiocratic literature.

<sup>41</sup> In the various *Tableaux*, Quesnay simply assumes that the appropriate spending pattern of landowners consists of spending at least half their income on agricultural products. This propensity of 0.5 is a formal requirement of the *Tableau*. It is necessary to ensure that the farmers recoup the whole of their advances through a 'multiplier process' (see Eltis 1984:19). The 'productive' and 'sterile' classes may be said to have no discretionary spending power since they do not share in the net or disposable product of society. Their consumption is wholly determined by 'necessary expenditures', i.e., raw materials and subsistence goods and (for the farmers) durable capital goods.

<sup>42</sup> At least, this is the case in the *Tableaux*. Cf. Pressman (1991:552) who argues in opposition to Vaggi that '[...] having demand determine relative prices and the distribution of the economic surplus conflicts with those dynamic *tableaux* which show demand falling for agricultural goods and increasing for manufactured goods. This shift in the direction of demand does *not* change relative prices'. Pressman is probably right with respect to the content of the *Tableaux*. However, this does not mean that the physiocrats are completely ignorant of the idea that if for some reason (e.g., restrictions to trade, altered spending patterns of landlords) the effective demand for agricultural goods decreases, their market prices would fall. Cf. chapter 3, n. 34.

<sup>43</sup> In Isnard's theory, a 'spending pattern' of the sellers of any particular commodity consists of one particular column in the system pictured in the main text above.

<sup>44</sup> To isolate the effect of changing patterns of demand on relative market prices, Isnard notes that one must suppose '[...] that the quantities [exchanged] of merchandises remain constant' [1781,I, 21]. In other words, Isnard supposes that the composition of the marketed output does not change. This change would obviously

the example of a market in which three commodities are traded, Isnard asserts:

It is easy to see values vary as a result of the variation of offers; one can see how, proceeding from the supposition that  $m$  equals  $n$ ,  $p$  equals  $q$ , and  $r$  equals  $s$ , to the supposition that the quantities  $n$ ,  $q$ , and  $s$  equal zero, how, I say, between the extreme suppositions, progressive changes in the offers have an influence on all the values (Isnard 1781,I:21).<sup>45</sup>

The principal merit of this analysis is that it constitutes a purely formal representation of how changes in spending patterns, or the circulation of commodities, may affect market prices. The more substantive question that it elicits is what factors must be considered to determine the spending patterns (or fractions of quantities of commodities offered for other commodities)? Isnard's views on this question are not very clear. This is not surprising considering the fact that an enormous number of causes can be imagined which can cause variations in the spending patterns within an economy. Still, two modern answers to this question can be quite safely discounted.

On the one hand, it is rather unlikely, as is argued by Gilibert (1987:424), that Isnard '[...] considers the economic behaviour of every individual as completely determined by the reproduction requirements of the system'.<sup>46</sup> This commentator argues that in Isnard's theory

[e]xchange can be seen as being directed to productive [*i.e.* intermediate] consumption, instead of final consumption. The "effective demands" for commodities can be interpreted as inputs demanded, given the techniques in use, for the production of given outputs (Gilibert 1981:150-1).

There is certainly some merit in this interpretation since Isnard emphasises in his theory of

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have its own effect on market prices.

<sup>45</sup> The letters used by Isnard refer to the equations  $aM = pbM' + rcM''$ ;  $bM' = maM + scM''$ ; and  $cM'' = qbM' + naM$  (see section 2.4 above). As Isnard suggests a numerical example helps to clarify how changes in spending patterns affect relative market prices. For example, assume  $a=20$ ,  $b=40$ , and  $c=60$ . First assume that  $m=n=10$ ,  $p=q=20$ ,  $r=s=30$ . Substituting these quantities in the ratios on p.66, gives  $M:M':M'': 22 \frac{1}{2} : 6 \frac{1}{2} : 2 \frac{5}{6}$ . Next only change the proportion between what the owners of  $M$  spend on  $M'$  and on  $M''$ , e.g.  $m=3/4a$  and  $n=1/4a$ . This gives  $M:M':M'': 22 \frac{1}{2} : 10 \frac{1}{8} : 1 \frac{3}{20}$ . Assuming  $m=a$  and  $n=0$  gives  $M:M':M'': 22 \frac{1}{2} : 13 \frac{3}{4} : 1/3$ . If the spending patterns of the owners of the other two commodities are allowed to change as well, the numerical value of  $M$  will change too. E.g. assume  $m=3/4a$  and  $n=1/4a$ ;  $p=3/4b$  and  $q=1/4b$ ;  $r=3/4c$  and  $s=1/4c$ . This will give  $M:M':M'': 63 \frac{3}{4} : 4 \frac{7}{8} : 583/1000$ . Assuming  $m=a$  and  $n=0$ ;  $p=b$  and  $q=0$ ;  $r=c$  and  $s=0$  gives  $M:M':M'': 85 \frac{1}{2} : 1/5 : 0$ . This last case alone, which Isnard calls an 'extreme supposition' would mean that the total quantities traded in the market would have changed, since  $M''$  would not be bought at all and its owners would not be able to purchase any other commodities. In a word, their 'goods' would not be 'wealth'.

<sup>46</sup> He argues that in this respect Isnard, as well as Quesnay, belong to a 'radical strand' within classical political economy. This is a simplification of the economics of both writers. In Quesnay's theory, the spending of the landowners is certainly not 'completely determined by the reproduction requirements of the system'; for his part, Isnard argues that any producer may obtain some of the surplus, which gives him so discretionary spending power. However, this is not to deny that the reproductive requirements are an important determinant of the demand of "buyer-producers", both in Quesnay's and Isnard's theory.

production that every producer purchases some of the inputs he uses from other producers (cf. section 3.5 above). However, this does not mean that the purchases of individuals are *completely* dictated by the 'inputs demanded, given the techniques in use'. As noted, Isnard's theory is explicitly set within a *surplus producing* economy. This allows for some latitude in market prices within which reproductive requirements can still be met (cf. chapter 3, note 87 above). Moreover, since Isnard argues that all 'proprietors' are in principle able to share in the surplus, it is improbable that their market demand is wholly dictated by 'productive' consumption. Most importantly, one can make the latter simplification of Isnard's theory only at the expense of the idea that events in the sphere of circulation, acting through changes in market prices, may guide *what* is being produced.<sup>47</sup>

On the other hand, what Isnard has to say about the determination of the patterns of demand suggests even less that he anticipates the neoclassical theory of demand, according to which 'demand' depends upon the combination of initial endowments and the wholly autonomous subjective 'preferences' of individual consumers. Instead, Isnard suggests that the spending patterns of buyers depend on two factors: '[...] the reciprocal capacities [*facultés réciproques*] and the needs [*besoins*] determine the particular offers [...]' (I,27).

The first term probably expresses something like 'purchasing power'; in the physiocratic literature similar expressions (*la faculté d'acheter*, *la faculté de consommer*) are used to denote the actual capacity to pay for something. As in physiocratic theory, this capacity derives from the fact that buyers obtain exchangeable value (money) for their excess produce in their function as seller. Isnard's views about what determines the amount of 'purchasing power' are very rudimentary. Still, he appears to distinguish between the quantity of goods which sellers bring to the market and the market price at which they can be sold.<sup>48</sup> Since quantities supplied to the market are understood

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<sup>47</sup> Gilibert's rather radical interpretation appears to be partly motivated by his opposition to the neoclassical principle of consumer sovereignty. Referring to the fractions on the right-hand side of the exchange equations, he argues '[w]hat appeared just as a simplification (the omission of determining the coefficients, which are given as exogenous data) turns out to be a fundamental choice against the dogma of consumer sovereignty, and in favour of the acknowledgement of technical requirements' (1981:151). On the one hand, one can sympathise with this view since the neoclassical theory of demand is more alien to Isnard's economics than Gilibert's alternative. On the other hand, Gilibert seems to be throwing out the baby with the bathwater. Isnard's separate treatment of market exchange on the one hand, and production on the other, expresses how produced quantities adapt to demanded quantities through variations in market prices. Indeed, this does not mean that he anticipates neoclassical theory, and the 'dogma of consumer sovereignty' in particular. Still, any theory of decentralised capitalist production needs to present some idea of the processes by which the composition of output adapts to demand. In classical political economy, this process is described by the 'law [as opposed to 'theory'] of supply and demand'. Isnard's theory seems to be a sophisticated instance of this notion.

<sup>48</sup> This distinction is most clearly made in the following passage: 'When the quantity [supplied to the market] of a commodity increases by whatever cause, [then] either its value falls proportionally -if the offers remain the same-, or if the offers increase, because the poorest consumers, discouraged by the dearness [of other products?], are attracted by the fall in price and the abundance; in this second case, the price does not fall as a result of the increase in quantity' (1781,I,43). In other words, an increase in the supply to the market

to be adapting over the cycles of reproduction to the 'offers' for them, it seems unjustified to consider the *facultés* of buyers as 'given' 'initial' endowments.<sup>49</sup>

With respect to the second factor, the 'needs' [*besoins*], Isnard's most pertinent observation is that '[...] needs and desires [...] are unlimited for every individual person, but [they] are limited by one another within a social system' (I,42-3).<sup>50</sup> Isnard suggests that within this social system 'needs and desires', which may vary somewhat from person to person,<sup>51</sup> depend on numerous factors, like fashion (in the case of rich consumers),<sup>52</sup> but especially income. The fact that '[...] the distribution of wealth and the reciprocal options [*facultés réciproques*] of owners determine the order of spending, and rule the needs' (I,27), (i.e., that 'needs and desires' are not independent from income), is noted by Isnard in a few places. For example, he states that it may occur that '[...] the poorest consumers, discouraged by the dearness, redirect their offers to other commodities which they enjoy less, but which they can afford; [...]' (I,43). The influence of income on needs is most clearly expressed by Isnard in the following passage:

There exists a progression according to which goods [*biens*] are preferred, this progression of needs [*progression des besoins*] is founded on the progression of incomes [*facultés*]. It is known that needs consist

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of a commodity can result in the fall of its market price (if spending patterns are unaltered), or its market price may be sustained (if the spending patterns of some groups of consumers do alter).

<sup>49</sup> This point is related to the basic position defended in chapter 2, that the physiocratic (and Isnard's) economic analysis is irreducibly *social*, that is to say, it does not take as its starting-point an isolated individual with a given initial endowment (of commodities or factors of production) and a set of preferences. Instead the circular flow may be considered as the starting-point in the context of which every producer produces in excess of his own consumption in order to obtain some of the excess produce of other producers. It is true though that the manner in which Isnard determines market prices assumes that there are 'given' quantities of marketed produce at the beginning of every 'period' (cf. chapter 2, n.111).

<sup>50</sup> In absolute terms, needs and desires are unlimited: 'There are men whose needs and desires could only be satisfied by owning the whole world, by owning all land, all inhabitants, their labour, and all the products of the land and the sea' (I,43).

<sup>51</sup> This variability is suggested by the following passage: 'The offers of the owners of the same commodity vary relative to one another according to the interest [*intérêt*] which they have in increasing [the offers] in order to obtain the preference [*préférence*], when they want to acquire more [of other commodities], or in decreasing [their offers] when they are satisfied with fewer [other commodities]' [I,20; emphasis added]. This should not be understood to mean, I believe, that any particular trader has influence over the exchange ratios at which he trades. Instead he is only free to buy more or less. In this respect Isnard appears to take the same view as Le Trosne, who as we saw explicitly argues that individual traders are only free with respect to the amount of commodities which they buy (a freedom which is limited by their income and perhaps the necessary intermediate purchases). Whether they buy or not does not influence the prices current in the market, '[...] because we are not the only buyers, and because, if it does not suit us, it can suit someone else'. Thus 'motives' may be somewhat variable from person to person, but in a large market society this does not affect market prices, which are only affected by collective spending patterns.

<sup>52</sup> 'Producers and manufacturers compete [*concourent*], and strive to outdo one another to attract the offers of consumers; they deploy all means which are suggested by taste, skill, invention and emulation, to excite in their favour the taste and capriciousness of the rich, and to set the fashions, which appear and disappear rapidly [...]' (I,27).

principally of food, drink, housing, clothing, furniture, pleasures and services. Relative to one's income, everyone successively procures that what is most useful [*utile*] to him, and expenditure increases in proportion with incomes. The poor man is restricted to the necessary; he contents himself with bread of oats and with water; he covers himself in rags, sleeps on straw and lives under a thatch. The worker adds what is healthy [*la salubrité*] to the necessary; he eats bread of wheat and barley, or of rye, he drinks wine, dresses himself in whole cloths, lives under a roof and maries. The well-to-do person [*l'homme aisé*] increases his enjoyments and satisfies some particular tastes in food, cloths, furniture, housing or pleasures. The rich man fills his house with domestic servants; he buys horses, and packs [of dogs]; he lives in comfortable houses, castles or palaces; he adorns himself with silk, gold, and jewels, choosing everythings which art and novelty allow him to procure of the most sought after [trinkets]; he invites parasites and his friends for dinner, offering the most exquisite dishes and the most sensual natural or manufactured products (I,55-6).

This passage shows quite clearly that Isnard is of the opinion that there is an 'order' to the needs and desires of man that is strongly influenced by income. Moreover, it is suggested that man in society successively acquires tastes which grow in number and become more sophisticated as he becomes richer. It has to be stressed that Isnard's observations on the nature of the 'needs and desires' of people hardly form a well developed theory. However, they are suggestive of what may be called a 'sociological' approach to the study of the customary spending patterns of different groups of consumers in society.

Empirical data about the combined factors of purchasing power and needs (*facultés réciproques* and *besoins*) would be necessary if one were to determine the actual content of every 'particular offer' (every single fraction on the right-hand sides of the exchange equations).<sup>53</sup> More important is that Isnard's exchange equations offer a formal framework to express the complicated pattern of demands in the economy. With respect to this representation of 'demand' it should be carefully noted that almost everything he says indicates that he has in mind a theory of 'actual demand'. The very term which he consistently uses to denote 'demand', *offre*, suggests the meaning 'demand-backed-up-by-the-means-to-pay'. Significantly, the term *offre* may at the same time be translated as '(actual) supply'. Rather than being a confusion of terms, this usage reflects the crucial insight that buying and selling, or 'demanding' and 'supplying', are interdependent (and in the absence of money, indeed, inseparable) acts.<sup>54</sup> In this respect, Isnard's views are very close to those of the physiocrats.

#### 4.3.3 Demand and Reproduction in Isnard

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<sup>53</sup> Thus the spending habits of people could neither be fully specified by looking at the technical requirements of production (although these would account for a large part of expenditures), nor by an *a priori* and purely formal set of autonomous subjective preferences.

<sup>54</sup> As will be seen in section 4.4, this conceptual point that only the use of money establishes the distinction between the act of buying and selling, and the roles of buyer and seller, is very well grasped by our writers.

It must be kept in mind that the previous discussion only relates to the effect that 'actual demands' [*offres*] have on *market prices*. There is little indication that Isnard believes that 'demand' affects 'the value of the advances necessary to the existence of that commodity' (I,34), *i.e.*, the price of production.<sup>55</sup> The problem is that Isnard is not completely clear what the relation is between the 'market sphere' and the 'sphere of production' (or between his equations of exchange and of production). Nevertheless, the relation suggested in some passages can be characterised in the following manner: the fluctuations of market prices, caused partly by changes in the patterns of demand, dictate *what* is being produced (through a comparison by producers between the necessary costs of production and the price obtained in the market).<sup>56</sup> Thus with given necessary prices of production, the composition of output adapts to the effectively demanded quantities.<sup>57</sup> This relation is quite clearly expressed in the following passage:

It is easy to see that the increase of [the marketed quantity of] a particular commodity [*denrée*] causes a decrease in disposable wealth [*i.e.*, net profit] to the owners of this commodity, and an increase for the other [proprietors]; because the more the [marketed] quantity of this commodity augments, the more its value falls; the producer consequently withdraws [a quantity of his commodity] proportionally to the costs [*frais*]. Thus the more a productive activity increases, the less productive [*i.e.*, profitable] it is to the producer; but it is the more productive with respect to the general mass of wealth. The more products there are, the more enjoyment [*jouissances*] there is; the less is consumed by costs, the more disposable wealth there is (I,37).<sup>58</sup>

The idea that if costs of production are not recouped, production will be reduced and that production adapts to the effective demand in the economy is an important notion which Isnard may have encountered in the physiocratic literature. There are at least three significant differences though

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<sup>55</sup> However, see note 57 below.

<sup>56</sup> The changes in the patterns of demand can either be imagined as being temporary, or as more permanent; for example, as the result of the fact that as society becomes wealthier groups of consumers increase their luxurious consumption.

<sup>57</sup> The statement that Isnard considers the prices of production to be 'given' is only true as a first approximation. While he seems to take techniques in use as given, he puts forward some interesting ideas with respect to the value of the means of production. The prices of inputs are not simply assumed as given. Isnard asserts: 'There are things which are only bought to produce other [things] with; the desire and need of the consumer [indirectly] rules the degree of preference attached to [means of production] by the intermediary buyers and producers (I,27). As will be shown in section 7.4.2, Isnard maintains that the value of capital goods (that is commodities used in the production of other commodities) depends on the value of 'products of capital' (final goods). Since Isnard also acknowledges that the value devolving to (the owner of) a particular input (which defines the 'product' of that input) can only be established if one first 'assumes values' to those inputs themselves, he engages in circular reasoning. The fact that Isnard discusses the theoretical issue of the valuation of capital at all, is remarkable. See section 7.4.2 below.

<sup>58</sup> For Isnard's views on the adaption of production to market demand, see also section 2.4. Note that Isnard in the penultimate sentence makes the same distinction as Le Trosne between total social *wealth*, or output, which increases whenever more goods are produced, and *value* of individual commodities, which either rises or falls depending on the relative marketed quantities of each. Cf. note 115, section 2.5. For the distinction between the two uses of the term 'productive' in the same sentence see section 3.5 above.

between Isnard's views and the physiocrats.

First, as already noted, in original physiocratic theory the notion of production adjusting to demand, is almost exclusively associated with the effective demand for agricultural products.<sup>59</sup> If agricultural prices are high enough, *i.e.*, if they are *bons prix*, agricultural production will be expanded. In contrast, Isnard applies this basic idea to all economic activities. In this respect, his position is reminiscent of Turgot, who also writes in general terms:

[...] if, by any disorder whatsoever in the sequence of expenditure of the different classes of society, the Entrepreneurs cease to get back their advances with such profit as they have a right to expect, it is evident that they will be obliged to reduce their enterprises;[...] (Turgot 1766:75).

Second, the very fact that market prices fluctuate and production is adaptive implies that it is not guaranteed that all entrepreneurs will be able to recoup all their advances at all times. However, there is a difference between the situation in which an entrepreneur does not cover his costs of production because a) he is unable to sell all that he has produced for the market, or b) he is able to sell his whole produce but only at prices below the costs of production. As we saw, Mercier de la Rivière argues that because of a deficiency in effective demand it is possible that products '[...] will not be consumed, will perish as superabundance, without utility, without value'.

The historical relevance of this observation is that it was heavily criticised by J.B. Say, and by James Mill since they saw in it the origin of the underconsumptionist views of neo-physiocratic writers like Spence and Lauderdale in England, and Garnier in France.<sup>60</sup> That is, Mercier de la Rivière is understood to accept the possibility of a general 'glut'.<sup>61</sup> As Sowell (1972:13) notes, even in the classical controversies in the 1820s and 1830s about the possibility of partial and general gluts '[t]he term "glut" was widely used but seldom defined. It usually referred to a situation in which goods were either unsold or were saleable only below cost-covering prices'.

Isnard's analysis of exchange strongly implies that the relative market prices of marketed quantities vary to ensure markets 'clear', and that partial 'gluts' can only occur under an 'extreme supposition'.<sup>62</sup> This view is not completely absent in the physiocratic literature. Le Trosne asserts that the purchasing power of the buyers

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<sup>59</sup> Mercier's famous maxim that 'consumption is the measure of production' (1767:537) is formulated in this context.

<sup>60</sup> Cf. chapter 1, n.5.

<sup>61</sup> The possibility that some of the agricultural produce remains unsold must be considered as a general glut in the context of physiocratic economics, since it is understood to have an effect on the level of activity in the economy as a whole.

<sup>62</sup> See above note 45; a partial glut would only occur if there would not be any actual demand at all for some commodity.



[...] decides about the effective consumption and about the price at which it takes place; the *sale takes place at any price*, [but] it is only the *bon prix* which can maintain or raise cultivation (Le Trosne 1777b:897; emphasis added).<sup>63</sup>

At the same time, Le Trosne also adheres to the more general physiocratic view that if farmers do not receive a *bon prix* for their produce, the level of activity in the economy as a whole, may go into an indeterminate process of decline, an 'equilibrium of misery and degradation' (1777b:899). This view is not expressed by Isnard.

Isnard's third difference with the physiocrats, may to some extent explain the previous one. Isnard assumes that producers change their production in response to changes in the net profit, or 'disposable wealth' they receive. This correction mechanism is rather crucially elusive in the physiocrats. Isnard's position seems to be closer to Turgot and Adam Smith.<sup>64</sup> A brief comparison with the latter's notion of 'effectual demand' seems appropriate. Smith (1776.I.vii:54) writes famously:

The market price of every particular commodity is regulated by the proportion between the quantity which is actually brought to the market, and the demand of those who are willing to pay the natural price of the commodity [...] Such people may be called the effectual demanders, and their demand the effectual demand; since it may be sufficient to effectuate the bringing of the commodity to the market.

In Smith, 'effectual demand' stands for 'market demand at the natural price'. It is called 'effectual' since it effectuates 'the bringing of the commodity to the market'.<sup>65</sup> If the quantity 'actually brought to the market' falls short of 'effectual demand' then the competition among buyers will raise the market price above the natural price, and if the opposite is the case, competition among sellers will result in a fall of the market price below the natural price. Whenever a difference between the market price and the natural price exists, producers increase or reduce their supply to the market so that '[t]he quantity of every commodity brought to the market naturally suits itself to the effectual demand' (1776.I.vii:55). As a result, market prices tend towards their natural price which is 'the central price to which the prices of all commodities are continually gravitating' (*ibid.*56).

With respect to Isnard's views on demand two things can be said. On the one hand, the relation between market price and natural price is much more clearly developed by Smith. Isnard's

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<sup>63</sup> This is not an isolated statement. Le Trosne argues that if '[...] in exchange a much greater quantity of [one] particular product is presented [i]t [...] has to be that, in order to sell, it will fall in price; that is to say, that one gives more of it than normally for a given quantity of other products'. As was argued on pages 23-24, this idea is part of Le Trosne's somewhat unorthodox theory, anticipating Isnard, that goods acquire values by 'entering into the balance'.

<sup>64</sup> For Turgot's view that because of adaptations in produced quantities, market prices can not remain below 'fundamental prices' for long, see note 53 (chapter 2).

<sup>65</sup> The term is similar to the physiocratic term *consommation effective*. See above section 4.3.1.

analysis of market exchange concentrates primarily on 'actual' demand (or demand at the current market price) while 'effectual' demand (or demand at the natural price) is only implied in the passages where the adaptive behaviour of producers is discussed. On the other hand, the perception of 'demand' of both men is similar in the sense discussed by Garegnani (1983). According to the latter, Smith's theory of effectual demand differs from the neoclassical demand schedules since the formal requirements to derive the latter continuous sets of price-quantity combinations are absent from Smith's work.<sup>66</sup> The same is true for Isnard. It is clear that the market prices in his theory of exchange are always 'actualised' ones (as opposed to 'potential' ones, in the sense of "if the price *would be* such and such, the quantity demanded or supplied *would be* such and such").<sup>67</sup>

To sum up, although far from fully developed, Isnard's 'theory of demand' can best be seen as an elaboration of physiocratic notions based on the fundamental idea of the circular flow of commodities. 'Demand' is related to production: first in the sense that consumers are only able to buy goods if they are able to sell products; and second, in the sense that quantities supplied to the market are understood to adapt to actual market demand.

#### 4.4. Money as means of exchange

While the physiocrats, Turgot, Morellet and Isnard agree that for some purposes the circulation of commodities in society can be imagined as an intricate system of barter,<sup>68</sup> that does not mean that monetary theory is neglected in their works. To the contrary, the question what the 'nature' and different functions of money are, receives special attention from Le Trosne, Turgot, Morellet and Isnard. There are some significant differences between the monetary views of these younger writers and those of Quesnay and his closest followers. The basic difference is that the former insist that money should be considered as a commodity in its own right, possibly partly in opposition to the

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<sup>66</sup> To clarify, modern neoclassical theory hypothesises the existence of separate supply and demand schedules, that are continuous and non-actualised price-quantity combinations ('upward sloping' in the case of the supply schedule, 'downward sloping' in the case of the demand schedule). Strictly speaking these schedules can only be derived by assuming preferences, initial endowments and available techniques given, as well as assuming some formal requirements (continuity, gross substitutability, non-satiation, homogeneity of degree zero in price) to assure that the schedules are 'well-behaved'. The alternative to the logical deduction of the demand and supply schedules, is an empirical estimation based on observed quantity-price combinations. Neither approach is foreshadowed in Smith's work. Particularly, very little support for the former can be found in the *Wealth of Nations*.

<sup>67</sup> Which is the meaning of all points on the supply and demand schedules outside the equilibrium position.

<sup>68</sup> Morellet asserts for example: '[...] one can always abstract from all use of money and consider all transactions, the operations of trade and finance as being done in terms of goods. All purchases, all sales of subsistence goods, all wages, all payments of taxes as being executed with grain, wine, oil, wool, animals, leather, etc. [...]' (Ms. 2522, 13, 16; quoted in Di Rienzo 1994:278).

latter who argue that money is merely a 'token' or 'sign'.

A careful interpretation of the meaning of this general difference is required. In the first place since it only leads to different views about the functions of money in some particular respects, while in other respects the views of the younger writers are not at variance with those of Quesnay. Second, the monetary views of the younger writers merit special attention since it appears that Turgot's most important original contribution, the incorporation in Quesnay's reproductive model of a notion of profit as a return over capital advanced, is closely related to his monetary views.<sup>69</sup> In the present section we are concerned only with the functions of money as an intermediary in exchanges; in section 7.3.2 money in its functions of capital will be examined.

#### 4.4.1 A theory of commodity money

Turgot expresses his basic view of money as early as 1753-4, when he states that essentially 'every commodity is money and that every [kind of] money is a commodity' (Schelle 1913-23,I: 376). He elaborates this opinion most fully in the sections 30-47 of the *Reflections*.<sup>70</sup> In effect these are the sections which are elaborated more rigorously by Morellet in his 'Digression' in the *Prospectus*.<sup>71</sup> The fascinating and little noticed conceptual analysis of money in that text, aims to trace back the logical origin of money through a number of separate stages: i) that of barter of two commodities (pp. 104-109), ii) barter of many commodities (109-113), iii) exchange where one commodity becomes the common 'measure and pledge' of value (113-135), and iv) exchange where this common measure and pledge is a precious metal (135-162).

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<sup>69</sup> This is suggested by the very structure of Turgot's *Reflections*. In the crucial short section 29, entitled 'Of capitals in general, and of the revenue of money', Turgot introduces a new element into what up to that point has been a more or less straightforwardly physiocratic text. He writes: 'There is another way of being rich, without labouring and without possessing lands, of which I have not yet spoken. It is necessary to explain its origin and its connection with the rest of the system of the distribution of wealth in the society which I have just outlined. This way consists in living by what is called the revenue of one's money, or on the interest drawn from money placed on loan' (Turgot 1766:56). To explain the connection of money 'with the rest of the distribution of wealth', Turgot first makes a digression on the functions of money in relation to the 'simple' circulation of commodities, in the sections 30-47. The reason for this digression is given in section 30: 'In order to explain how these two metals [*i.e.*, silver and gold] have become the pledge representing all kinds of wealth, what influence they exercise in the business of commerce, and how they enter into the composition of fortunes, we must go back a little and retrace our steps'. Thus before considering the functions of money as capital, Turgot develops his theory of the origin of money as a commodity that has acquired specialised functions in 'simple circulation'.

<sup>70</sup> For other statements see 'Observations on a Paper by Graslin' (1767b:128) and 'Letters on the Grain Trade' (17770b:153).

<sup>71</sup> A large number of Morellet's manuscripts are wholly or partly devoted to the subject of money. In the index of his manuscripts he enters under the heading *argent* the manuscripts 2520, 2524, 2525, 2526, 2544, 2549, 2550, 2551, and 2554.

It is possible to recognise the same stages, worked out less rigorously, in Turgot's *Reflections*: section 31 of that work corresponds to Morellet's stage i); sections 32-34 to stage ii); sections 35-41 to stage iii); and sections 42-47 corresponds to stage iv).<sup>72</sup> Perhaps it can even be said that Isnard's monetary views are inspired by those of Morellet.<sup>73</sup> In the *Traité des Richesses*, the several logical steps can also be recognised, even though they get a more concise, algebraic treatment: stage i) figures in the first two paragraphs of section 1, chapter 2; stage ii) in the rest of that section; stage iii) in the penultimate paragraph of section 2, chapter 2; and stage iv) corresponds to the rest of that section.

Morellet's contribution is remarkable for its analytical rigour.<sup>74</sup> As he clarifies, the first three stages of his discussion are seen as '[...] necessary to clear the way to the right notions about *Money*, about its nature and about its functions' (Morellet 1769:132), and it is only the fourth stage that money is dealt with 'in the proper and restricted sense, [that is] certain pieces of precious metals with an imprint' (1769:132). In the first three stages Morellet painstakingly establishes that there are two characteristics which '[...] constitute the essence of all things which have been called *Money*' (1769:132). These are the functions of being the 'measure' (*mesure*) and 'pledge' (*gage*) of value. According to Morellet, 'money' is by definition the commodity which is commonly used to express the exchange value of all other commodities (the function of 'measure') and the commodity which is commonly used as the 'instrument of acquisition' (1769:93) (the function of 'pledge'). With

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<sup>72</sup> As we saw in section 2.3.4.1, Turgot and Morellet recognise two more stages, namely those of one subject, one object and one subject, many objects. As was argued, the fact that both men stress that they are primarily concerned with analysing the 'nature' of money suggests that 'Value and Money' should not be interpreted as an attempt to underpin the *Reflections* with a subjective theory of value and human choice. Rather it may be understood as a (problematical) attempt to develop a theory of money.

<sup>73</sup> Isnard's views on money can be found in the *Traité* volume 1, chapter II, section ii and iii (pp.21-6), and chapter III, section V, articles I and II (pp. 267-338). The former sections give his theoretical position and the latter section constitutes a more practical and technical discussion. Morellet's *Prospectus* is quoted on page 295. His discussion of 'Law's system' (pp. 313-331) anticipates his proposal for the establishment of a national bank (1787).

<sup>74</sup> The type of analysis which Morellet presents may appear somewhat strange to readers mainly familiar with British classical political economy (and even stranger to readers mainly familiar with neoclassical economics). This is because it is hardly developed by later writers. This fact led Marx (1867,I,54) to complain that, what he calls, the 'analysis of the value-form' was 'never even attempted by bourgeois economics'. Marx's own version of this analysis shows remarkable similarities with Morellet. The latter's logical stages are called by Marx respectively the 'simple value-form', the 'expanded value-form', the 'general value-form', and the 'money-form'. These stages are fully developed in the first chapters of *Capital* I. In these chapters there are no references to Morellet or Turgot, (but the physiocrats are quoted on numerous occasions, and among them Le Trosne most often). One crucial difference between Morellet's and Marx's analysis is that the latter continuously links his *formal* analysis with his *substantial* analysis of value. (For the distinction see especially Marx 1867,I, 46, 54). According to Marx the 'form', or appearance, of value is the 'exchangeability' of one commodity for other commodities; the 'social substance' (*ibid.*54) is socially necessary labour time or abstract labour. Money in Marx's theory, being the formal 'universal equivalent' of all commodities, is at the same time the object which best expresses the 'substance' of value. In contrast, Morellet's analysis is a strictly formal one.

respect to this 'double function' of money (1769:135), Morellet insists that in principle any commodity can be money:

[e]ach *Merchandise* is *Money*, since each Merchandise can be more or less easily Measure of the value of all others, and Pledge for the acquisition of a certain quantity of each. Reciprocally all real Money is Merchandise. Because one can only accept [from one trade partner] as pledge, that which is sure to procure what one has not got, [and] that of which one is sure it will procure [a third thing] to the one [*i.e.*, the next trading partner] who has got the thing which one needs (1769:133).<sup>75</sup>

Under the assumption of barter between two individuals (stage i), each trader's good is indeed money and merchandise at the same time.<sup>76</sup> That is to say, the physical object which each trader gives up is for him the expression of, and payment for (or 'price' of) the physical object he receives (or 'value') from the other trader. However, the analytical distinction between 'value' and 'price' can be made:

The *price* is the thing which one gives to obtain that which has an *exchange value*. The exchange value is the principle, the first and immediate motive which makes that one pays a more or less high *price* for a thing. The exchange value is prior to [*antérieur à*] the *price*, and the *price* consequently adjusts to the *exchange value* (1769:108-9; emphases in original).<sup>77</sup>

The two functions of measure and pledge are examined separately by Morellet. The function of measure is highlighted in a historical discussion of 'the habit of assessing all commodities in terms of one type of commodity' (stage iii) (1769:113).<sup>78</sup> He discusses at length the different kinds of

<sup>75</sup> Cf. Turgot 1766 section 39 and 40; Isnard 1781:22.

<sup>76</sup> '[...] one can not express the exchange value of a thing in terms of another thing, and not express the exchange value of the latter at the same time' (1769:110).

<sup>77</sup> The identical point is made by Le Trosne when he distinguishes between 'exchange', (*échange*), or barter, and 'sale' (*vente*), or exchange in which money intervenes. 'The price is the expression of value; it is not distinct in exchange, each thing is reciprocally the price of the merchandise; in sale the price is [expressed] in money' (Le Trosne 1777b:889; cf. *ibid.*904). This distinction should not be confused with the distinction between (market) price and ('underlying') value which is sometimes made in later classical political economy. The present distinction is a purely formal one. It is identical to Marx's distinction between the 'relative' and the 'equivalent' form of value. The 'relative' form ('value' in our writers) is taken by the 'commodity which expresses its value in another commodity'; the 'equivalent form' ('price' in our writers) is taken by the commodity which 'serves as the material of the expression of value' (Marx 1994:11 ff.; cf. 1954:55 ff).

<sup>78</sup> This historical discussion has no counterpart in Le Trosne's work. Turgot (1766:60) and Isnard largely confine themselves to giving some historical examples of monies. Isnard further gives a concise algebraic treatment to the idea that all commodities are assessed in terms of one of them. He writes: 'If one has several commodities M, M', M'', M''', M''', etc. whose values are known, and are in the proportions *a* to *b* to *c* to *d* to *e* etc. one could compare all these commodities in terms of one of their number. Thus one will have M:M' :: a:b, M:M'' :: a:c, M:M''' :: a:d, M:M'''' :: a:e, etc. The values of M, M', M'', M''', M'''' will thus be

$\frac{bM}{a}, \frac{cM}{a}, \frac{dM}{a}, \frac{eM}{a}$  etc.

$\frac{b}{a}, \frac{c}{a}, \frac{d}{a}, \frac{e}{a}$

From this it follows, 1. that the measure of one of the commodities can serve as a common measure

money which have been used in different societies: heads of cattle among the ancient Greeks, sheep among the pre Roman Italians, *Makkutes* along the Angolan coast, *Nattes* elsewhere in Africa, bars of iron along the Guinean coast, fish in Iceland and cauri shells 'in some nations of Africa and in Asia'.<sup>79</sup>

These examples are used to illustrate a number of theoretical points. First, Morellet suggests that the kind of money adopted in a society reflects its dominant mode of production.<sup>80</sup> Second, greater emphasis is laid on the interesting thesis that the adoption of one particular commodity as money is accompanied by a process of abstraction from the physical appearance of any particular unit of that commodity. Taking the example of sheep, he argues that once that animal got used as measure of value, people '[...] formed for themselves the idea of a *common sheep*, an *average sheep*' (1769:118).<sup>81</sup> His reflections on this point are worth quoting at some length.

Now, an *average sheep*, a *common sheep* are abstract beings; it is a fiction, it is the imaginary element of an imaginary measure. When the thing with which one compares all the others, has become uniform, and always of an equal quality under the same designation, when sheep can be taken to be similar, the term *sheep* would have become abstract through the sole power of the habit of assessing everything in terms of *sheep*. Indeed, that term when applied for some time to measure the value of a certain quantity of wheat, wine, oil, leather, etc. has had to become synonym to a certain value. It will soon just mean the equivalent of a certain quantity of all things. One will only see in it this quality of equivalence, and so it becomes an abstract sheep. *Sheep* will no longer denote a certain animal useful to man, but a certain quantity of each of the things which are useful to man, and which are traded; and a distinction is established between the *real sheep* itself, and the *sheep measure of value* [*le mouton mesure des valeurs*] (1769:118; emphases in original).

Morellet thus emphasises that the numéraire used in society is an abstract category which is the result of a *habit* of assessing all commodities in terms of one kind of commodity. This abstract meaning given to the commodity reflects the fact that it has a function which is distinct from its use value,

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for all the others, and that one can always relate the value of all the other commodities to this measure [...]' (1781,I:21).

<sup>79</sup> The fact that Isnard (1781:23) uses nearly identical examples is one of the clearest textual clues that he was directly influenced by Morellet's text. Cf. section 2.4.

<sup>80</sup> 'It is thus sheep among pastoral peoples; wheat among agricultural people; [and] if metals, iron, copper, gold and silver, are employed as *real Money*; then they are not only Measures of values, but also *Pledges* which are sure to procure each other thing'. The significance of this passage is not so much its historical (in)accuracy, but that it is an application of the stadial theory of history. It is likely that Morellet's ideas with respect to this conjectural kind of history are related to those of Turgot. As will be seen in section 7.3.1. note 22, Morellet also suggests that this observation also applies to the "means of accumulation".

<sup>81</sup> Morellet, and Turgot, favour the example of the sheep because the Latin word *pecus* has the double meaning of livestock and money (1769:115, cf. Turgot 1766, section 41). This etymological fact perfectly illustrates Morellet's theory that every kind of money existed earlier as a commodity.

namely that of being the measure of other use values.<sup>82</sup>

With respect to the function of money as 'commonly accepted means of payment or 'a *Pledge* for the acquisitions of all other [commodities]', Morellet argues that the commodity used for this purpose has to be 'worth naturally and by itself a certain quantity of all [things] he [*i.e.*, the buyer] can desire to have, and which is the exact and real *equivalent* of it (1769:130). For this to be the case, the money has to be a 'real Money', or 'a substance fit to human uses, an object of his desires and needs' (1769:133).<sup>83</sup> Again Morellet gives several historical examples to prove his point that originally all known currencies were merchandises desired for their use value prior to being adopted as currency.<sup>84</sup>

At the same time, as is the case with respect to the function of money as measure, the adoption of a commodity as 'pledge' involves, so to say, its assumption of an identity which is distinct from its use value: a commodity when used as 'pledge' is not used as a 'means of enjoyment', but as an 'instrument of acquisition'. Morellet notes that when a commodity is used by

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<sup>82</sup> These ideas differ from those of modern theorists who often take the choice of numéraire as a matter of purely analytical convenience. Morellet's 'historical' analysis of the function of money as a measure of value seems to be motivated by his Lockean philosophical convictions that any abstract category of thought has an 'empirical' origin, and that abstract terms are a product of the human mind (in Locke's terminology, they express 'nominal essences'). Morellet seems to apply this principle to money when he writes: 'Never have a people arrived at a manner of abstract and general assessment, but after having used this manner of accounting in some time when it expressed a thing with which one paid. The abstract and general expression always supposes, in the mind of men, the earlier use of that same expression in a real and particular sense' (1769:124). The philosophical aspects of this theory can not be developed in full here. However, it may be pointed out that judging by his philosophical and etymological writings, Turgot appears to have very similar ideas to those of Morellet. The 'abstract sheep' also makes a brief appearance in the *Reflections* (section 36). On the relations between Turgot's linguistic theory and theory of money see Hassler (1985) (1991) and Giacometti (1984). Morellet's views seem to have been overlooked.

The philosophical point that measuring value in terms of a standard commodity involves the use of an abstract notion (*i.e.*, that one does not mean any particular unit of a commodity) does not figure in the works of Le Trosne or Isnard. As a matter of fact it is made by very few economic theorists ever since. Again, Marx is the exception: 'The price or money-form of commodities is, like their form of value generally, a form quite distinct from their palpable bodily form; it is, therefore, a purely ideal or mental form' (Marx 1867, I, 98). This bears a striking resemblance to Morellet (1769:116): 'Because of the use which is made of a thing, or of its name instead, as a *measure* for all the others, that name has become after some time a general expression of value. No longer it denoted the thing which serves as a measure itself, but a portion on an imaginary and conventional scale of value [*une échelle fictive & conventionnelle des valeurs*]'.

<sup>83</sup> Cf. Isnard (1781, I:22): 'Monies have real values [*valeurs réelles*] which metals acquire through their useful qualities, or [the qualities which make them] fit for consumption. It is by virtue of those values that they serve as media of exchange for commodities [...]' ; cf. Turgot 1766, sections 39 and 40. cf. Le Trosne (1766:199). It is important to note that this does not mean that these writers can not explain the use of credit money (see below).

<sup>84</sup> To make this point he uses the popular example of the cauri shell used as money in '[s]ome nations in Africa and Asia' which appears to be an exception, since it seems to have no use value. 'We respond that Cauris really are a merchandise, having a real utility, a use value. Those shells serve as jewels to those peoples. They have, it is true, a small value [even in] a great volume [...]. It is not a convenient currency, but it suffices to barbaric peoples, who only have crude merchandise as objects of trade (1769:134)'.

“ someone to purchase other commodities then it is possible

[...] that he will only receive a very small quantity of the commodities of others, for a large quantity of his; but the quantity is not at issue here. It is enough that he could obtain even the smallest portion, for it to be true to say that his commodity is a pledge in his hands [which is] assured to obtain any other type of commodity (1769:131).

The remark that the exchange ratio between the commodities is not at issue, shows quite clearly that Morellet distinguishes between the theory of relative prices and the formal analysis of the notion of money.<sup>85</sup> An implication of the distinction between money as a use value (an object wanted for its physical characteristics) and as a means of payment is the observation that the use of money establishes the distinction between the roles of seller and the buyer. The seller is the person who gives a consumable good and receives money; the buyer is the person who gives money and receives a consumable good.<sup>86</sup>

The question why precious metals 'have almost universally been preferred to fulfil this double function' is addressed by Morellet in stage iv of his analysis. Following earlier authors, his answer is that the physical properties of precious metals make them 'more divisible, more imperishable, and more easy to transport' than other commodities (1769:136-8).<sup>87</sup> It is the first property, Morellet specifies, *i.e.*, the fact that precious metals are easily divisible and that all units have 'an equal quality', which makes these commodities so suitable as measure of value.<sup>88</sup> On the other hand, it are the imperishable nature of precious metals and the fact that they have a 'great value in a small volume', which make them suitable to fulfil the function of 'universal Pledge' (1769:138-40).

Morellet insists that precious metals have become money because of their physical properties and not 'through any arbitrary convention of men'. That is, the use of precious metals as money is a convention, but this convention is not arbitrary. Morellet is careful to point this out: '[w]hen we say that Metals did not become Money through an arbitrary convention of men, we do not mean that this choice was absolutely necessary', since in principle any commodity can function as measure and pledge of value.

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<sup>85</sup> See my remarks in section 2.3.4.1 above.

<sup>86</sup> See Turgot *Reflections* section 47; Morellet 1769:145 remark 3.

<sup>87</sup> Cf. Turgot 1766 section 43; Le Trosne 1777b: 910; Isnard 1781:22. These writers may have taken these points straight from Aristotle, or any number of subsequent authors. In this particular respect therefore they are not in the least original.

<sup>88</sup> See 1769:136-8 where Morellet suggests that the divisibility and homogeneity of the precious metals may be said to make them particularly useful to function as 'abstract' measures, and to express value with the precision required in a commercial society.



[W]e only want to say that with the progress of societies it had to happen inevitably that metals substituted any other substance to serve as money, since it had to happen that when the ideas of men and their knowledge expanded, they recognised in *Metals* this greater aptitude to serve as *Measure & Pledge of values*; [...] and although that choice was the effect of the agreement of the wills of men, to say that it was the result of an arbitrary convention would be equally incorrect, as to pretend that the formation of languages, the progress of the Arts, of Laws, of the Sciences are also the work of a convention. Because those effects are like the invention of money, a necessary result of the progress of societies, a progress which itself was a necessary result of the gathering of men in society (1769:142).<sup>89</sup>

A particular sense in which the use of precious metals as common measure and pledge assists the 'progress of societies', is highlighted by Turgot. The use of money facilitates the social division of labour:

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<sup>89</sup> The same point is emphasised by Turgot in section 43 of the *Reflections*, Le Trosne (1777b:913-14) and Isnard (1781:22). It is a position which must be seen within the context of an old debate about the origin of money. For a long time the view of natural jurists, encoded in the Digest, that the value of money depends on the will of the sovereign was influential. Le Trosne, being a lawyer himself, directs his criticism against this view. In 18th century France especially Locke's opinion is often discussed. Locke argues that '[t]he universal consent of mankind gave to silver, on account of its qualities which made it suitable for money, an imaginary value'. This can be understood in two way. On the one hand, it can be taken to mean that silver derives an imaginary value from the fact that it is accepted by universal consent as money. Law (1705:9) gives this reading to Locke's statement and criticises him for it. (Law's distinctive opinion that the use of precious metals as currencies gives them an 'additional value' (ibid. 10) is shared by Le Trosne (1777b:910) which may indicate an influence). Montesquieu (*Esprit des Lois* book xii, ch. 7) gives the same reading to Locke's statement but, in contrast to Law, takes it over. Isnard (I, 23-6) singles Montesquieu's monetary views out for criticism, while he commends Law's basic conceptions of money which were right despite the failure of his scheme (I, 317). On the other hand, Locke's statement can also be understood to mean that the physical qualities of metals gave rise to their common acceptance as money, a usage which is not 'necessary' but conventional. This is the reading which Turgot and Morellet are likely to have given to Locke. The manner in which Isnard makes the point about the non-arbitrary origin of the habit to use of metals as money merits some attention because of the interpretation given to it by Jaffé. Isnard writes that it is '[...] a mistake to believe that currencies have a value by convention, or that *men have given an imaginary value to money by a general agreement*. The price expressed in livres, sols and deniers may be expressed in any other measure, or even in abstract numbers and in fractions. Silver in its function of numeraire is therefore indeed a convention; but if one considers it as means of payment [*monnaie*], one can say that it is not by convention that it has a value when serving as a pledge. It is natural that the units of commodities which serve as means of payment, serve at the same time as numeraire' (1781,I,22). Jaffé (1969:41-2), relating this passage to paragraphs 68, 115, 145-50, and lesson 30 of Léon Walras' *Elements of Pure Economics*, argues that '[i]n his treatment of money, Isnard strikingly anticipated Walras's idiosyncratic use of the term *numéraire*, not in the ordinary sense of hard cash or specie, nor in the sense of of an abstract unit of account, but rather to designate a concrete standard commodity in terms of which the relative values of all other commodities can be expressed. [...] The resemblances between Isnard and Walras are so close both in the terminology and in the analytical employment of the concept that it places a great strain on the imagination to suppose that Walras arrived at this idea of *numéraire* wholly independently of Isnard'. Walras may indeed well have been influenced by Isnard. However, one has to be careful not to infer that the ideas of both men are identical. Jaffé draws the conclusion that '[...] Isnard even alluded to the choice of a *numéraire* commodity as arbitrary, subject to analytical convenience- in anticipation of Léon Walras' (1969:41 n.50). As the passage cited above shows, Isnard is of the opinion that for the function of numéraire, or measure, any commodity could indeed be chosen. However, as means of payment, or 'pledge' (*monnaie*) the choice of the commodity used as money is *not* an arbitrary convention, but a historical, social convention or habit.

The more money came to stand for everything else, the more did it become possible for everyone, by devoting himself entirely to the kind of cultivation and industry he had chosen, to relieve himself completely of all the care of supplying his other wants, and to think only of obtaining as much money as possible, by the sale of his fruits or his labour, very sure that by means of this money he could get all the rest: in this way the use of money has prodigiously hastened the progress of Society (Turgot 1766:64).<sup>90</sup>

It must briefly be pointed out that it would be wrong to conclude that the adherence to a commodity theory of money by Morellet (as well as Turgot, Le Trosne and Isnard) means that they can not explain, or even oppose, the use of credit money. On the contrary, they articulate clear ideas on the use of credit money. They point out that the difference between money made of precious metals and paper money consists in the fact that the latter does not derive its function of 'pledge' from its own physical qualities. Instead it is based on the promise of an agent to pay something else which *is* valued for its physical qualities.<sup>91</sup>

#### 4.4.2. Connections to the physiocratic views on circulation

There can be little doubt that the theory of money of the previous section differs in several respects from the monetary views of Quesnay and his closest followers. For the interpretation of the relation of the views on money of the younger writers to the physiocratic perception of circulation, Le Trosne's work is pertinent. Like Turgot, Morellet and Isnard, he is the only physiocratic writer who explicitly argues that money is not merely a 'sign' but 'wealth'.<sup>92</sup>

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<sup>90</sup> The same point that the use of money favours the social division of labour is made less clearly by John Law (1705: 6,11).

<sup>91</sup> They give rather elegant formulations to this distinction. Morellet (1769:94-5): 'A certain quantity of grain, a sheep, a certain weight of silver or gold are for whom possesses it, an assured Pledge, an infallible Means to obtain a certain quantity of each other substance and that independently from any convention and intervention of any authority [...] In contrast, the promise from one man to another man, or the engagements contracted by Government to pay a certain quantity of gold and silver, or to give a certain quantity of grain, of animals etc. are only a Pledge of that gold and that grain insofar, the public authority assures its execution'. Le Trosne (1777b:911): '[Silver money] has currency [*cours*] everywhere, without it being asked where it comes from; and this is the essential difference with notes which are nothing but a schedule of engagement [*cédule d'engagement*], and which, not having any intrinsic value, only draw it from the solvability of the obligee. Also they are not accepted as wealth, but as a title to be paid a [item of] wealth; and this title is judged to be more or less solid, following the greater or lesser confidence in the ability to pay [*facultés*] of the subscriber. In a word, with a note one promises to pay, with money [*l'argent*] one pays'. Isnard (1781,I,301-2): 'It is not because metals serve as pledges that they have a value, on the contrary it is because they have a value that they serve as pledges. [...] metals are at the same time pledges and wealth [*gages & richesses*], they carry their credit with them. Papers are pledges founded on credit or confidence, and are no wealth by themselves; they are worth nothing if the engagement which they contain is not founded on real wealth [*richesses réelles*]; and only the wealth which they represent, can influence values'.

<sup>92</sup> Mille (1905), and Beer (1917:187) already point out this difference between Le Trosne's views on money and those of the other physiocrats. Unfortunately, later commentators like Spengler (1945) and Johnson (1966) do not note this difference. The first time that Le Trosne dissents from the dominant physiocratic position on the nature of money is in 1766 in the article '*Discussion sur l'argent et sur le commerce*' *Journal d'Agriculture* July 1766, p. 123ff. Le Trosne writes '[...] money is not a *sign*, but wealth; because it has by

The latter view is opposed by Quesnay who repeatedly distinguishes between money which is a mere 'token' or 'sign' and 'real wealth', that is, those goods which can be consumed and used in reproduction: '[...] money is not a form of wealth which men need for their enjoyment. What we have to obtain are the goods necessary for life and the annual reproduction of these goods themselves' (Quesnay 1766b:165).<sup>93</sup> Money is merely 'an intermediary token between sales and purchases, (1766c:218), it is 'the form of wealth which *represents* other forms of wealth' (1767a:251).<sup>94</sup> He also expresses the view that '[m]oney, or gold and silver in its capacity of money, is a form of wealth which possesses no use value at all' (1757b:91), and that 'money constitutes utility for a nation only insofar as it circulates' (1767a:251). Mercier de la Rivière (1767:486-7) adds that the value of money is 'artificial and conventional'.

Le Trosne criticises these views when he writes:

It is [...] not accurate to say that money is sign of wealth, and that it represents values. It is not a simple sign, because it is itself wealth; it does not represent values, it is the equivalent of it. Indeed, metals are by themselves suited to different uses, and as such they have a value (Le Trosne 1777b:910).<sup>95</sup>

Le Trosne's argument against the dominant physiocratic position is rather subtle. He distinguishes between money as means of payment, or coined money [*l'argent monnaie*] and money as metal [*l'argent metal*]. On the one hand, *l'argent monnaie* is indeed 'not a good [*bien*] suited to enjoyment, but a simple tool of trade' (1777b:915). This is so because, '[c]onverted into money, metals are *in that form* no longer a good suited to enjoyment' (1777b:910; emphasis added).<sup>96</sup> However, this does

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itself, as metal, useful properties which give it an exchange value, and since its rarity gives small volumes a large value it was adopted by a universal convention as the measure of prices (1768b:198-99). Interestingly, in the same article Le Trosne first puts forward his ideas about the 'equal benefit' of both traders in a free exchange (see above section 2.3.4.2). Both this latter theory and his views on the nature of money as a commodity are similar to those of Turgot.

<sup>93</sup> Johnson (1966:619) points out that Vauban and Boisguilbert distinguished between 'consumable wealth' and money for the same reason.

<sup>94</sup> Cf. Mercier (1767:484) who calls money 'only a sign which announces wealth'. This view is shared by a number of influential writers of the time, like Herbert (1755:360-61; quoted by Johnson 1966:619): 'Gold and silver are only monetary signs of power'. Forbonnais (see Meyssonier 1989); Hume (1752:312): 'Money is nothing but the representation of labour and commodities, and serves only as a method of rating or estimating them'. In response to Morellet's *Digression*, Hume writes: 'That part of your Prospectus, in which you endeavour to prove that there enters nothing of human convention in the establishment of money, is certainly very curious, and elaborately composed; and yet I cannot forbear thinking that the common opinion has some foundation' (Letter dated 10/7/1769, in Hume 1932:204; cf. ch. 1 n.17).

<sup>95</sup> The second sentence is quoted by Marx (1867:94 n.1).

<sup>96</sup> This may be read in the following way. The physical change of gold or silver into coins, changes their *function*. Before they were a 'means of enjoyment' (jewels etc.) now they are 'means of exchange'. As we saw above (section 4.4.1), the same distinction between metals as use values and metals as 'instruments of acquisition' is made by Morellet. Another striking instance of the idea that the (physical) change of *form* of things, coincides with a change in their economic function, is Morellet's observation that by changing a money-

not mean that the precious metals have lost their capacity of being suited to consumption: '[...] since they [*i.e.*, coins] are still metals they retain their quality of wealth, and their value varies like that of all tradeable objects [*matières commercables*], with respect to whether they are more rare or more common' (1777b:910). Strictly considered as money (*argent monnaie*), precious metals are indeed 'nothing more than a tool of exchange' (Quesnay 1757b:91), or 'the accepted measure and pledge' of value.<sup>97</sup> Morellet and Turgot do not seem to disagree on this point, as their distinction between 'buyer' and 'seller' indicates.

Within the context of the physiocratic views on the different kinds of circulation of products and of money, the distinction between the acts of buying and selling obtains a special relevance. The *buyer* [*acheteur consommateur*] consumes what he has received (productively or not); the commodity has reached the end of its circulation and is destroyed in consumption (which is immediate or gradual). The *seller* [*premier vendeur*] has to use what he has received, as a means to purchase something else, he has to become buyer in his turn and money has to continue its circulation. As Le Trosne expresses it, in sale (as opposed to barter)

[...] only the buyer has achieved his goal, since only he is enabled to enjoy. But not all is over for the seller: the money which he has received is not a good [*bien*] suited to enjoyment; in order to make use of it he has to become buyer in his turn. [Thus] a contract in which money intervenes is not [fully] consumed, since the seller has to become buyer, either by himself or through the intervention of someone who he conveys his money to. There are thus, to achieve consumption which is the ulterior object, at least four terms and three contractants, of whom one intervenes two times (Le Trosne 1777b:908-9).<sup>98</sup>

While the route traversed by products is from producers to consumers (they are made in production and destroyed in consumption), money is 'indestructible' and circulates perpetually.<sup>99</sup> The

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capital into 'animals, tools, manure, seeds' etc. it turns from an 'idle' into an 'active' capital. See section 7.3.2.

<sup>97</sup> Cf. Quesnay in 'Men' (1757b:91): '[...] money is a special kind of wealth, representing an equivalent for the market value in the purchase of all kinds of exchangeable wealth'. Mercier de la Rivière (1767:542): '[Money is] a merchandise whose value has the capacity to be representative of an equal value of any kind of merchandise'.

<sup>98</sup> The last sentence is quoted by Marx (1867, I, 113 n.1). The whole corresponding paragraph in *Capital* seems to be inspired by Le Trosne. Although, according to Le Trosne, sale is theoretically 'less simple' than barter, in practice '[...] one normally prefers sale because it is more convenient; because the buyer does not always the thing for which one has a need; [...] because often the seller does not have a present need to satisfy, and that the protection and transport of money is not as difficult; because one may have obligations which have to be fulfilled in money, etc., etc. In general, the habit of estimating everything everything in money is such, that even when one barter, both sides starts by reducing the value into money' (1777b:909-10).

<sup>99</sup> For the distinction between the two kinds of circulation see especially Quesnay (1766c:224-5); cf. (1757b:91).

physiocrats stress that the primary function of money is to facilitate the circulation of products.<sup>100</sup>

Quesnay's conviction that this is the *only* function of money is related to some more substantive views. First, in a number of places Quesnay argues that there has to be a definite proportion between the stock of money in the economy and the annual product. He usually assumes that the money stock has to be equal to the net product (see 1759b:134-5; 1763:149; 1766b:166; 1767a:251). This view is probably based on his idea that rents are paid annually in money and that the money stock has to be sufficient to allow this payment.<sup>101</sup> Quesnay argues that a money stock which exceeds this proportion with the net product is not useful.

However, in a number of other places he seems to contradict the view that there has to be a definite proportion between the annual product of a country and its money stock. Both in his earliest and later economic writings, there are passages in which it is implied that there is no such definite proportion at all. This is so, first, because the velocity of money is not constant, and can increase whenever the quantity of money is 'too small'.<sup>102</sup> Second, if necessary the quantity of specie in circulation can be supplemented with or substituted for paper money (see 1757b:91-2; 1766b:166; 1766c:219; 1767a:253).

Le Trosne's views with respect to the size of the money stock in circulation are partly at odds with Quesnay's views on the subject. In the first place, Le Trosne argues that

[t]he numéraire which circulates in a country is an accumulated capital. If it has mines, then it is a fruit of its territory. If it does not have [mines], it can only acquire it by the exchange for its products [...] Money distributes itself between [the nations] in proportion to the means which they have to buy it, and to the need that they have for it for the circulation (Le Trosne 1777b:929,921).

Second, the value of money does not depend on the relation between the money stock and the

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<sup>100</sup> Mercier de la Rivière (1767:485) states for example that: '[...] in order to *always* have money, one [...] always has to have values with which one can buy it. But those values are things which we destroy in our consumption; consequently, only reproduction can restore those values after we have consumed them: it is necessary that they are *reproduced*, in order that the circulation of money is perpetuated by means of exchanges of money against those products'; cf. *ibid.* 542. Cf. Le Trosne (1777b: 915; 924-5): '[...] there is an essential difference between the circulation of money and of products. Money circulates and is not consumed, it only changes hands in order to facilitate payments and exchanges. But products are consumed. Their circulation is often limited to passing from producer to consumer. [...] One receives products for themselves, and one only receives money in order to exchange it for a value in products'.

<sup>101</sup> It is possible that Quesnay's ideas about the relation between the size of the money stock and the annual amount of rent paid are inspired by Cantillon. Cf. Herlitz (1961), Aspromourgos (1996).

<sup>102</sup> See e.g. 'Corn' (1757a:77): 'Monetary wealth can increase or diminish without anyone noticing it, for it is always available [*effective*] in a state, by reason of its quantity or its velocity of circulation, in proportion to the abundance and the value of raw produce'. Cf. 'Analysis' (1766b:157 note): 'This total sum of money can be assumed to be more or less large, and its circulation more or less rapid; for the rapidity of circulation of money can in large part make up for the total quantity of money'.

quantity of goods in circulation. It depends on the value of precious metals (1777b:911).<sup>103</sup> Le Trosne argues that the increase in the quantity of precious metals is related to the costs of the exploitation of mines.<sup>104</sup> The value of precious metals is independent from the proportion between the annual product and the money stock.

Le Trosne argues quite explicitly that the size of the money stock will always be sufficient to facilitate the circulation of commodities. He rejects Quesnay's idea that there has to be a definite proportion between the net product and the money stock.

All calculations which one pretends to make about the quantity of the numéraire which exists in a nation are illusory [...] If one can form conjectures about the mass of the numéraire which exists in a nation, one can say that it is not even necessary that it is equal to the rent of the land. In that proportion it is more than sufficient, because the rent is paid in parts, and the same money serves to it several times (1777b:917).

To support the view that the money stock will always be sufficient to allow the circulation of the annual product, Le Trosne reinforces Quesnay's ideas on changes in the velocity of circulation of money and the creation of credit money.

One [...] never needs to worry about money, there is always enough of it. [...] It never fails to present itself when the faculty to pay combines with the need to sell, and it is the magnitude of the reproduction, and not that of the numéraire, which decides about the faculty to pay. One can thus not say that agriculture languishes because money is lacking; but money seems rare because agriculture is weak. Reanimate it by suppressing the obstacles which oppose its progress and money without increasing in mass will suffice to all exchanges; the velocity of its movement makes up for its quantity. When there is need for it, it slips from one hand to another without stopping for a moment. If it [*i.e.*, the quantity of money] does not suffice to the velocity which is required [...] one substitutes it for paper with which one does an infinity of business without money [*argent*] showing itself. One can thus make up for money, but nothing can make up for products. One can even say that the richer a nation is, the less does it have a need for a proportionate numéraire, because within it [*i.e.*, a rich nation] there is a greater number of people of whom the solvability is well established, and whose promesses circulate as cash [*argent comptant*] (1777b:915-16).

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<sup>103</sup> Isnard expresses the same opinion. Criticising Montesquieu's quantity theory of money he argues '[...] it is not because of their presence as *monnies* [*i.e.*, means of payment] that metals get values relative to merchandises, it is as *merchandises* suited to needs and exchanges that metals get values relative to other merchandises' (1781,I,26, emphases added; cf. 22, 301). Cf. Morellet who puts forward a clear argument against the quantity theory of money in the notebook '*Idée fausse que l'argent se balance avec toute la quantité des choses vénales*' (ms. 2550:64-67).

<sup>104</sup> '[...] nations which have mines [...] buy the metals with the costs of exploitation, and only the excess is profit. The more common silver becomes, the less profit is made, so that if the influx into Europe continues, as it has been doing for two centuries, one could foresee the time when they are forced to abandon the mines; [...]' (Le Trosne 1777b:921; cf. 911). Similar views are expressed by Turgot ten years earlier in his 'Observations on a Paper by Saint-Péravy' (1767a:118-9). Turgot argues that the production of silver should be considered in an analogous way to that of any commodity. Its production will continue '[...] as long as [mines] yield in sufficient abundance to cover the expenses of production with a sufficient profit to encourage the entrepreneurs to make advances; for this determines the limit of their exploitation, and not their physical exhaustion' (*ibid.*119).

By explicitly arguing that 'money proportions itself to reproduction' (1777b:922), Le Trosne can be said to adhere to a theory of endogenous commodity money.<sup>105</sup> All that the government has to do with respect to the money supply is preventing the debasement of the currency, because '[...] frequent variations in the value of money deprive all trade of confidence, stop circulation and throw uncertainty on all properties' (1777b:913).<sup>106</sup>

Another view related to Quesnay's opinion that the sole function of money is facilitating the circulation of products, is that the 'formation of monetary fortunes' may endanger this circulation.<sup>107</sup> Here Quesnay means the hoarding of income in the form of precious metals. Revenues should '[...] never be formed into monetary fortunes, or at least that those which are formed are counterbalanced by those which come back into circulation' (1759a:120; the same qualification is made in 1767a:233 and 244). These remarks appear to be primarily directed against what Quesnay calls the 'vulgar' mercantilistic belief that precious metal constitutes the true wealth of a nation (1759b:135; 1767a:252). According to Quesnay, this true wealth consists in its annual produce of agricultural goods which is capable of maintaining a large population and a large reproduction. In is in this context that Quesnay argues that the accumulation of money capitals could easily take place at the expense of the productive capacity of the economy:

Coined money [...] no longer contributes to the perpetuation of a state's wealth when it is kept out of circulation and no longer returns wealth for wealth. Thus the more it is accumulated, the more it costs in terms of wealth which is not renewed, and the more it empoverishes the nation (1767a:251).

Although Quesnay is not very clear on this point, it appears that the main danger which he sees in the withdrawal of money from circulation is not so much that there would not be enough 'tokens' to intermediate in exchanges. Rather he is concerned that it would reduce the amount of income spent.

Quesnay does not acknowledge that the formation of 'monetary fortunes' may assist in the process of capital accumulation. It is on this point that he is criticised by Turgot who argues that since money is principally saved to be promptly reinvested, it does not lead to a reduction of spending in the economy (see section 7.3.6). It can be argued that this difference with Quesnay is

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<sup>105</sup> On the importance of the theory of endogenous money in classical political economy see Glasner (1989).

<sup>106</sup> Le Trosne further condemns the common argument in favour of debasements, the reduction of government debt and the debt of private borrowers as a fraud at the expense of lenders (ibid.912-13).

<sup>107</sup> See e.g. Quesnay (1758:109): 'That the whole of the 400 millions of revenue enters into the annual circulation, and runs through it to the full extent of its course; and that it is never formed into monetary fortunes, which check the flow of a part of this annual revenue of the nation and hold back the money stock or finance of the kingdom, to the detriment of the reproduction of the revenue and the well-being of the people; [...]'. Cf. 1757b:92; 1767b:201; 1767a: 251 and 253.

directly linked to the theory of commodity money examined in section 4.4.1. The idea that money must strictly be considered as the commodity which because of its physical characteristics is best suited to function as common measure and pledge of value, is closely related to the observation that it is also best suited to the preservation and accumulation of value. As Morellet states, precious metals should be seen as 'the principal instrument of the formation of capitals of all kinds' (1769:207). However, this function does not belong to money considered in its 'simple circulation', *i.e.*, as an intermediary in exchanges. Instead it belongs to money as capital, which is discussed in section 7.3.2.



But products are not the only matter of sales and purchases: all orders of society are sellers, who only buy as much as they have sold. The proprietor sells the fertility of his land, the farmer his labour and the use made of his advances, the trader and the worker their services, etc. etc. (Le Trosne 1777b:909).

## Chapter 5. Distribution

In chapter 3 it was argued that the production of the social surplus and the distribution of this surplus are actually two distinct issues in physiocratic theory. The importance of the analytical distinction between 'production' and 'distribution' is that it gives rise to the perception of '[...] some kind of prior concrete magnitude limiting the level of aggregate class income'.<sup>1</sup> If the production of the annual product can be compared to the baking of a cake, then 'distribution' is the sharing out of the cake. Generally speaking, the theory of distribution can be said to be concerned with the study of the factors which determine which social class receives what share of the annual product.

This definition also holds true for the views on distribution of the physiocrats, Turgot, Morellet and Isnard. However, by way of introduction to the next three chapters, a few problems must be signaled in this chapter which complicate the interpretation of their ideas with respect to the theory of distribution. In particular, the social classifications used by the writers under consideration give rise to a number of difficulties. Quesnay and his immediate followers do not use the familiar classification used by Adam Smith and subsequent classical economists according to which society consists of three 'great constituent orders' of 'labourers', 'the undertaker of the work who hazards his stock', and the 'landlords' (Smith 1776,I,vi). Instead, in the physiocratic scheme of society the three 'classes' are i) the 'productive' class of farmers, ii) the 'proprietor' class of landowners, and iii) the 'sterile' class of merchants and manufacturers. As Quesnay points out, it is '[t]he idea of *production*, or of *regeneration*, which forms the basis of the differentiation between the general classes of citizens' (Quesnay 1766c:204).<sup>2</sup>

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1 This formulation is used by Meek (1974:259) to capture the similarity between the approaches of Marx and Sraffa to the question of distribution. It is sufficiently general to also adequately describe Quesnay's approach and that of Turgot and Isnard to the theory of distribution. Schumpeter (1954:241) emphasises the analytical distinction between production and distribution in Quesnay's theory and judges it to be a 'very unrealistic [...] abstraction', because 'in capitalist society they [production and distribution] are but different aspects of one and the same process: the bulk of capitalist incomes is formed in the course of the transactions that constitute production in the economic, as distinguished from the technological sense'. It is doubtful whether the analytical distinction between the issues of 'how much' an agent or class contributes to production and how large is the reward for this contribution, is in fact unrealistic. In any case it reflects that this approach to distribution differs from the neoclassical one.

2 He acknowledges that the subdivision of society into three classes abstracts from many more specific classifications, but '[i]t is only through the medium of such abstractions that we can examine and appraise the mutual relations between these different classes of men and work in the social order, and give them the designations which conform most closely to their functions, in order to express ourselves in exact terms in the detailed working-out of economic science' (Quesnay 1766c:204).

As a consequence the physiocrats do not primarily understand 'distribution' as the division of the annual product into 'wages', 'profit' and 'rent', but into the return to the labour and advances of the 'productive class', the payment of rent to the class of landowners, and the return to the labour and advances of the 'sterile class'.<sup>3</sup> With respect to the latter 'class', the physiocrats do not commonly make a distinction between industrial 'entrepreneurs' and industrial 'workers'.<sup>4</sup> All members of the 'sterile class' are often indiscriminately referred to as 'wage earners' (*salariés*). The term 'wage' (*salaire*) is somewhat confusing in this context. It does not stand for a wage relation in the modern sense (the payment for the worker's labour time by an employer), but expresses an intersectoral payment, something like "the payment of agricultural goods (or money) by farmers and landowners in exchange for manufactures" (see e.g. Mercier de la Rivière 1767:483-5).

The situation is different with respect to the agricultural sector. Here the physiocrats do quite commonly make a distinction between on the one hand the large scale farmer who is '[...] a modern independent entrepreneur, who deliberately employs and risks his money in the process of production' (Vaggi 1983:14)<sup>5</sup> and day labourers who are employed by the former. To some extent, the incomes of these two agricultural classes are treated distinctly in the physiocratic literature. Since

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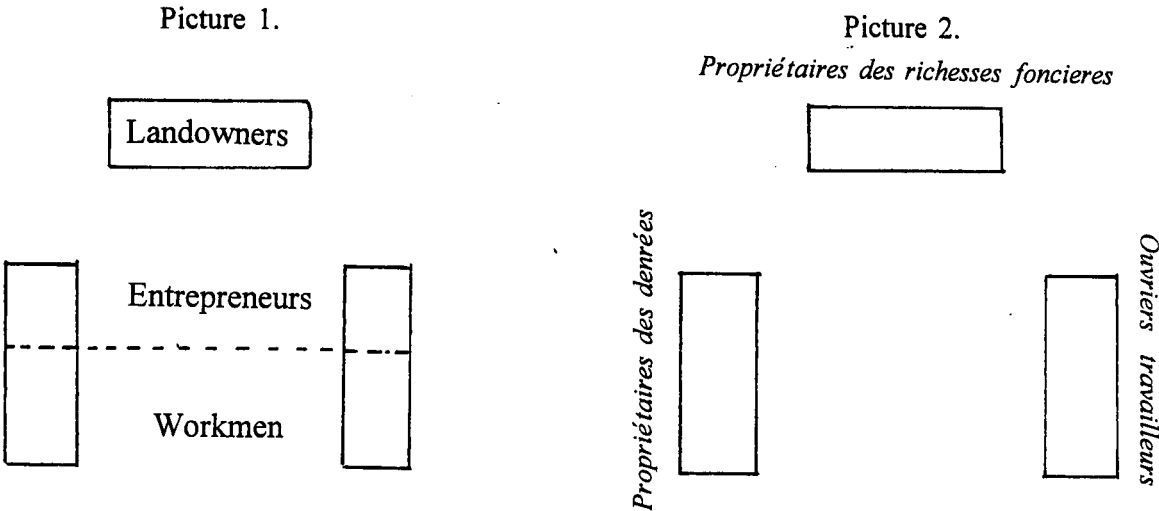
3 This is clearly expressed, for instance, in the following description of the distribution of the annual product by Le Trosne: 'The sharing out [*partage*] of the reproduction is based on [*se fait à*] different claims [*titres*].[...] The productive class has undoubtedly the first right to it: the reproduction is the fruit of its sweats and its advances. [...] The second class derives its right from the very title of its property. The land belongs to it; in order to exploit [the land], it associates itself with the first class, which applies its labour and its moveable wealth to the land. It are free agreements between those two classes which determine the disposable portion, [...]. [W]hile the right of the third [class] is only mediate, it is not less legitimate. It derives it from its personal property and its moveable property [*de sa propriété personnelle et de sa propriété mobilière*]' (Le Trosne 1777b:927-8).

4 In Quesnay's case an exception can be found in 'Men' (1757b:93). Meek (1962:309) notes that the younger physiocrats, especially Baudeau start to apply the distinction between entrepreneurs and workers also to the manufacturing sector. Particularly significant in this context, is Le Trosne's use of the distinction in (1770:23). See section 3.3.2 above.

5 In 'Corn' (1756; INEDII483) Quesnay describes the farmer as '[...] un entrepreneur qui gouverne et qui fait valoir son entreprise par son intelligence et par ses richesses'. The term *entrepreneur* started to be used in French from the beginning of the 18th century. Braudel (1982, II:329) dates one of the earliest occurrences in the French language of the term to 1709. A few years earlier, in 1705, Boisguilbert writes: 'Tout le commerce de la terre et même l'agriculture ne se gouverne que par l'intérêt des entrepreneurs, qui n'ont jamais songé à rendre service ni à obliger ceux avec qui ils contractent par leur commerce' (cited by Steiner 1994:203). According to Baumol (1993:11-12) it is only in Cantillon's *Essai* (1755) that the term is first used in a theoretical context. This is debatable since one is tempted to call Boisguilbert an economic theorist as well. Nevertheless it is true that Cantillon uses the term frequently. Postlethwayt, who used part of the missing English original of Cantillon's work, translates the term as 'undertaker' in his *Dissertation* (1749). According to Baumol, J.B. Say first employed the term in a more general sense by using it 'to denote any *organizer* of a firm' and to distinguish the organizer from the capitalist who is the supplier of funds. This is not completely true. In the later physiocratic literature 'entrepreneur' is sometimes already used in a more general sense, most importantly by Turgot. Also the distinction between the 'entrepreneur' (organiser of production and risk taker) and 'capitalist' (owner of money -capital) is in some cases made by Turgot, Morellet and Isnard. Cf. section 7.3.3 below.

the agricultural entrepreneur organises and finances his own production, his income depends on whether or not he is able to sell his produce profitably (that is at a higher price than his costs of production). According to Vaggi, the physiocrats even have a developed theory of agricultural profit (see section 7.2.2). In contrast, agricultural labourers are seen as simple wage-earners (see section 6.2.1 below).

A primary difficulty with the interpretation of Turgot's and Isnard's theories of distribution is that both men use a social classification which is, so to say, somewhere in between those of Quesnay and Smith. For clarity consider the following two pictures.



Both pictures represent alterations to the tripartite social classification of Quesnay. Picture 1. represents the classes distinguished by Turgot in the *Reflections*. In that text, Turgot initially uses the physiocratic classification (see especially sections 15, 17 and 18). As a consequence, in the early sections of the *Reflections* the term 'wage' (*salaire*) is used in the physiocratic manner, where it is asserted that what the farmer's '[...] labour causes the land to produce beyond his personal wants, is the sole fund for the payment of wages [*l'unique fonds des salaires*] which the other members of society receive in exchange for their labour' (Turgot 1766:45). Here 'wages' and 'labour' denote the payment for the products of the non-agricultural 'stipendiary' class (*classe stipendié*).

However, at a later stage of the *Reflections*, Turgot gives a rather different description of the 'wage-earning class', when he subdivides the 'industrial stipendiary class' into two 'orders' of men.<sup>6</sup>

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<sup>6</sup> In fact, in section 6 Turgot already briefly refers to the 'mere Workman who depends only on his arms and his industry'. Morilhat (1988:134-8; 154-8) provides an interesting interpretation of this ambiguity in the *Reflections* of the content of the terms 'wage' and 'wage-earner'. Morilhat argues that Turgot consciously engages in a 'semantic play' which assures the 'apparent theoretical homogeneity of the work' (*ibid.* 135). That is, Turgot is content to ignore the exact meaning of these terms in order to hide the extent to which his ideas

[The industrial stipendiary class] is, so to speak, subdivided into two orders: that of the Entrepreneurs, Manufacturers and Mastercraftsmen, all owners of large capitals, which they invest profitably as advances for setting men at work; the second order, composed of simple Artisans, who have no other property than their arms, who advance only their daily labour, and receive no profit but their wages (Turgot 1766:70-1).

Similarly, in section 65 the agricultural class is subdivided into 'Entrepreneurs or Capitalists' and 'mere wage earning workmen', 'whether Servants or Day labourers'. Turgot's subdivision of the agricultural and industrial sectors in the *Reflections* can be seen as an important refinement of the physiocratic social classification. It constitutes a shift towards a new classification of society into landowners, entrepreneurs and wage earners, similar to that of Smith and the later classicals.<sup>7</sup>

In comparison, Isnard's alternative to Quesnay's picture of society seems rather confused. It is true that in some passages in the *Traité* Isnard seems to imply class distinctions which come close to those of Turgot. In one place he states:

It is the lot of workers without possessions [*journaliers sans fortune*] to sell their labour [*travaux*] to the bosses of enterprises [*chefs d'entreprise*] and those bosses have to be capable to make advances (Isnard 1781, I, 74).

In another place he distinguishes between '[...] the profits of the entrepreneurs, capitalists and servants of any production' (*ibid.* II, 12).<sup>8</sup> Such passages suggest that Isnard sometimes distinguishes

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diverged from those of the physiocrats. At the same time, the same ambiguity appears in his letter to Hume of 25/3/1767, where Turgot first uses the physiocratic notion of 'wage-earners', but then discusses the notion of the fundamental wage which seems to refer to the incomes of 'mere workmen'. This suggests that Turgot does not consistently distinguish between the 'artisan-customer' and 'worker-employer' relationships.

7 The importance of the emergence of this 'modern' social classification in Turgot's work has often been noted. See e.g. Meek (1973a:30-33), Groenewegen (1983a:588). His generalisation of the distinction between an entrepreneurial class and a class of wage earners and articulation of separate theories for their respective income shares is certainly highly significant in the light of the development of classical political economy at large. However, it should be borne in mind that the main consequence is for Turgot's theory of *distribution*. As was argued in section 3.3.1, Turgot by and large adheres to the physiocratic view that the product of agriculture coincides with the total annual product of society. He seems to disagree with the physiocrats primarily with respect to the distribution of the annual product. Perhaps it can be said that Turgot's new social classification does not so much replace as supplement that of Quesnay. To the latter '[...] the idea of *production* or of *regeneration* [...] forms the basis of the differentiation between the general classes of citizens' (see note 2 above). Instead, the criterion used by Turgot in his classification landowners-entrepreneurs-workmen seems to be the different income claims of these groups. These claims are related to their specific 'properties', land, moveable property and one's own person respectively. Turgot's distinction of a class of men who have only 'their hands and their industry' (a phrase which is reminiscent of Boisguilbert who also speaks of 'ouvriers, qui n'ont d'autre revenu que leur bras' (see Nagels 1970:43)) seems to be related to the legalistic notion of *propriété personnelle* (cf. section 6.3 note 31). In relation to physiocratic theory it can perhaps be said that Turgot more clearly associates the three kinds of property, *propriété personnelle*, *propriété mobilière* and *propriété foncière* with distinct social groups (cf. note 3 above).

8 '[...] les profits des entrepreneurs, capitalistes & serviteurs de chaque production'. This classification is given in the context of his discussion of taxation. It is followed by a typically loose summation of the different contributors to production: 'Several people contribute to the same product, one as the owner of the land on which it grows, or of the building which contains the manufacture; the other as director of productive works; others by lending funds necessary to production; others by working with their hands; others by supplying their

between a class of entrepreneurs and a class of wage-earners, where the former organises the production process and hires the labour of the latter.<sup>9</sup> However, in the crucial passages where Isnard explicitly deals with the theory of distribution he seems to use another classification which unfortunately rather complicates his position. He writes for example:

The workers, artists, artisans of every kind, the owners of moveable and immoveable fixed capital, the owners of foodstuffs and [other] agricultural products, *divide between them the mass of disposable wealth according to the values of commodities which they expose to the market, [...] and the values of the expenses which they have to incur for the production* (Isnard 1781, I, 38 emphasis added).

When distinguishing between a) 'workers, artists, artisans of every kind' [*les ouvriers travailleurs, artistes & artisans de toute espece*], b) 'the owners of foodstuffs and agricultural products' [*les propriétaires des denrées & productions de la terre*] and c) 'the owners of moveable and immoveable fixed capital' [*les propriétaires de richesses foncieres mobiliaries & immobiliaries*], he seems to have in mind a social classification as in picture 2 above. That is to say, the 'workers' are equated with the artisan class, the 'owners of foodstuffs' with the agricultural class and the 'capitalists' with a class of owners of durable means of production.<sup>10</sup> Ironically, Isnard seems to maintain Quesnay's social classification in terms of 'sectors'.

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industry' (II,12).

9 See also 1781,I:35-6 where Isnard argues that to calculate his profit '[t]he producer deducts from the selling price of every type of commodity, the price of the primary materials which he has employed or consumed in production, *the price of the labour of the workers which he has paid*, and the value of the upkeep, repair and replacement of fixed capital'. This means, of course, that the 'producer' and 'the workers which he has paid' are different agents. The workers have been paid prior to the sale of the product, the difference between the sales revenue and the costs of production is for the 'producer', or entrepreneur.

10 This interpretation is confirmed by a numerical example given by Isnard (1781,I,40) in which the 'works' (*travaux*) T and T', the 'products' (*productions*) P and P', and fixed capital (*richesses foncieres*) N are produced.

*	+	20T'	+	100P	+	20P'	+	1/12N	produce 300T
10T	+	*	+	40P	+	200P'	+	1/6 N	produce 600T'
30T	+	20T'	+	*	+	100P'	+	1/4 N	produce 800P
20T	+	30T'	+	60P	+	*	+	1/2 N	produce 1000P'
110T	+	200T'	+	300P	+	90P'	+	*	produce N

Presumably, the sectors which produce T and T' represent the activities of 'the workers, artists, and artisans of every kind', the sectors in which P and P' are produced, the activities of 'the owners of foodstuffs and other agricultural products', and the sector which produces N, the activities of 'the owners of moveable and immoveable fixed capital'. With respect to the first sector, Isnard assumes that 300 people are engaged in producing 300 T, and that 'the costs necessary to the existence of 300 T' are 20 T' + 100P + 20 P' + 1/12 N. Similarly, 600 people carry out works T', of which the costs are 10T+40P+200P'+1/6N. These same costs are also considered to comprise the subsistence of the workers. (See 1781,I:40 note f, where it is added that '[w]e suppose those things produce the subsistence goods of the workers'). The fact that in the T and T' sectors the costs of production are considered to be at the same time what is "necessary to the existence of 300 (600) men executing work T (T')", and what is "necessary to the existence of the product 300 T (600T')" means that Isnard does not distinguish between the two meanings of the term *travaux* as 'labour' and 'product of labour'. It indicates that Isnard's understands those sectors to consist of self-employed artisans.

This is ironic because the above passage is meant as a direct criticism of the theory of distribution of the *économistes*. The interesting point which Isnard raises against the physiocrats is that distribution is brought about through relative prices. According to Isnard, the physiocratic opinion that the whole of the 'mass of disposable wealth' will devolve to the class of landowners is only true if, when 'exposed to the market', a) only agricultural products fetch prices in excess of 'the values of the expenses which [farmers] have to incur for the production' and b) if this excess is assumed to be handed over in full by the farmers to the landowners. Against this position Isnard maintains that 'capitalists' and 'workers' can in principle also share in the surplus.

[The *Economistes*] have said that labour [*travaux*] and capital [*capitaux*] only receive in the general distribution of wealth [*la distribution générale des richesses*] the salaries due to that labour and to that capital.[...] [However] according to their own principles of the freedom of exchange [...] it is in exchange that values are determined, [and] it is through these values that each proprietor of labour, of products and of capitals attracts [*attire*] a part of the disposable wealth (Isnard 1781, I, 40-1 n. g).

The main significance of Isnard's criticism of Quesnay's views on distribution is that it highlights that the latter's position rests on an implicit assumption about relative prices.<sup>11</sup> At the same time, Isnard's alternative theory of distribution is complicated by the fact that he seems to assume that the class of 'workers' consists of self-employed artisans, supplying their own advances and marketing their own products, gaining (or losing) whenever there is a positive (or negative) difference between the revenue from the sale of their produce and the costs of production. In fact, in Isnard's work the same ambivalence as in the physiocratic literature persists with regards to the meaning of the terms 'wage-earner' and 'labour' [*travaux*]. He tends to conflate the selling and buying of 'labour time' (between hired workers and employers) with the selling and buying of the 'products of labour'

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11 Gilibert (1989:93-4) formalises this interpretation of the *Tableau*. According to Gilibert '[o]nly one set of prices allows the *tableau* to reproduce itself and to guarantee the desired outcome (a net revenue appearing only in agriculture)'. According to him, the price system implicit in the *Tableau* can be represented by the following two equations:

$$\begin{array}{rcl} C_d p + I_c + R & = & C p \\ C_d p + I_i & = & I \end{array}$$

where  $p$  is the exchange value of corn (the agricultural good) in terms of iron (the industrial good) and  $R$  is the net revenue. The exchange ratio between agricultural and industrial products is a price which '[...] leaves no net revenue in the hands of artisans (the 'sterile' class) [and which] is the highest corn price compatible with reproduction; and so it is precisely that price which maximises the agricultural net revenue, in perfect agreement with the basic aim of physiocratic policy' (ibid.). This interpretation is doubtful in the sense that Quesnay nowhere states that he understands the *bon prix* as 'the highest corn price compatible with reproduction'. (Some commentators even go as far as to deny that prices play any role at all in the *Tableau* in ensuring the reproduction of wealth. See e.g. Pressman (1994:180-1)). Nevertheless, Gilibert's interpretation is supported by the historical fact that Isnard already demonstrates that the distribution of the whole net product to the agricultural sector depends on a specific assumption regarding relative prices.

(between self-employed artisans and their customers).<sup>12</sup>

It is likely that the conceptual problems related to the general classification of social groups encountered in the works of the physiocrats, Turgot and Isnard are to a large extent a reflection of the actual socio-economic changes in French society in the second half of the 18th century. A clear distinction between on the one hand an entrepreneurial or capitalist class, predominantly engaged with the organisation and supervising of enterprises and the making of advances, and on the other hand a class of pure wage-earners, or hired hands, was only gradually emerging in some sectors of the economy.<sup>13</sup> This makes Isnard's problems to emancipate himself from the physiocratic scheme of society (reflecting the opposition between agricultural and non-agricultural activities) more understandable and the extent to which Turgot succeeds in doing so the more remarkable.

The latter's 'subdivision' of the agricultural and industrial 'classes' is directly related to his distinct treatment of 'profit' and 'wages'. Turgot's theory of profit is explicitly concerned with the explanation of the income share of the 'order' of entrepreneurs. He argues that, in addition to compensations for risk taking and entrepreneurial labour, entrepreneurs need to receive a return on the capital which they have advanced to their enterprises. In effect, he thus introduces into the physiocratic framework the idea that entrepreneurs share in the 'net product' of society, not just

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12 See (Isnard 1781,I: 29): 'The labour, services, or functions of men are capable of being exchanged against each other, or against any commodity or product, like one exchanges commodities or products against commodities or products. The useful qualities which are produced by the labour of men are exchanged against things or useful qualities produced by nature, or by some machine'. Note how 'the labour, services, or functions of men' and 'the useful qualities which are produced by the labour of men' are used as interchangeable terms. This is explained to some extent by Isnard's view that '[w]orkers should be seen as the owners of the things, or of the useful qualities, which their labour is capable of producing. The things necessary to the subsistence of the workers should be seen as the necessary costs of the things, or qualities in question'(I,39). Consequently he argues that '[o]ne specifically estimates the labour of workers, during a certain time, by the work which they can do during that time'. This view simply follows from the assumption that the workers remain the owners of the products of their labour, so that by selling these products their labour is paid. This is consistent with the understanding of workers as self-employed artisans.

13 Cf. Morilhat (1988:157): '[...] the ambiguity of the notions of wage, worker, artisan, corresponds to the social reality of the 18th century where wage workers constitute a small minority of the french population'. Morilhat (*ibid.* 157-8) notes that the number of 'pure workers' is estimated to have been 4 to 500,000 males in 1789. In a population of 26 to 28 million this is a small minority. The number of peasants, sometimes part-time employed in other occupations, and more or less self employed artisans would have been many times greater. At the same time, some contemporary writers already distinguish, more or less formally, a class of property-less workers. Necker (1775:163-4) writes: 'I understand by that name [*classe travaillieuse*] nothing but that part of the nation born without property, from parents who are more or less in the same state, and which, not having been able to receive from them any education, is reduced to its natural faculties and which has no other possessions than its force, or crude and simple skills. It is the most numerous class of society and consequently the most miserable, since its subsistence depends uniquely on its daily work'. Similarly Morellet (ms. 2491, 24; quoted by Di Rienzo 1994:458 n.64): '[...] one calls manual worker [*manoeuvre*] any bricklayer, and also the people occupied with working the land. The manual workers are all wage-earners, those of whom the wage is the lowest and consequently their subsistence which in the end constitutes their wage is the most restricted. The introduction of that kind of subordinate worker in the works of society is a result of the division of labour. One could perhaps examine whether in that sense the division of labour is useful to society'.

temporarily but persistently (see section 7.3.6). The inclusion of a 'normal' profit margin in the fundamental price certainly implies a serious amendment to Quesnay's theory of distribution. Quesnay assumes that in the distribution of the annual product the 'productive' and 'sterile' classes (*i.e.*, agricultural and industrial sectors) each receive just enough of the annual product to replace their advances while the 'proprietors' receive the 'net product'.<sup>14</sup> In contrast, Turgot develops the idea that the owners of 'capital' share in the 'net product' too.

Similarly, Isnard attempts to alter Quesnay's view of distribution in order to allow for the notion that 'capitalists' receive part of the *mass disponible*.<sup>15</sup> Like Turgot, he describes the tendency towards a uniform rate of profit over capital in different employments. However, Isnard's concept of 'capital' is rather ideosyncratic. He includes all 'moveable and immoveable fixed capital', that is what the physiocrats call the *avances primitives*, or moveable fixed capital, and the *propriétés foncières*, or landed estates, in one indiscriminate category of 'fixed capital' (*richesses foncières*). This also implies that he includes landowners and owners of manmade durable means of production in one class of 'capitalists' (see figure 2 above). A tempting explanation of why Isnard does this is that it is a willful denial of the privileged treatment given by the physiocrats to land as the only 'productive' (*i.e.*, surplus generating) input. However unfortunately, as in his discussion of wages, his peculiar definition of 'capital' and 'capitalists' causes complications to his theory of profit (section 7.4) and rent (section 8.3.2).

The above is meant both as a justification for and qualification of the following three chapters which deal with the theory of 'wages', 'profit' and 'rent' respectively. It is justified because distinguishable theories of these three income shares are indeed already developed in the later physiocratic literature. However, it is not claimed that any of these theories is wholly consistent or even entirely understandable. One does not have to give an unwarranted favourable reading to the often sketchy explanations of wages, profit, and rent to appreciate that in many respects they are noteworthy, even important. What is perhaps the most significant is that attempts are made to give

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14 At least this is the case in the final version of the *Tableau économique*, which depicts the ideal well-ordered agricultural kingdom advocated by Quesnay. The distributive outcome of the *Tableau* is initially affirmed by Turgot in section 16 of the *Reflexions*: 'The two classes of Cultivators and Artisans resemble each other in many respects, and particularly in this, that those who compose them do not possess any revenue, and both equally live on the wages which are paid to them out of the product of the soil. Both have also this in common, that they gain only the price of their labour and their advances [...]' (Turgot 1766:49). At a later stage in the same text, Turgot develops the idea that entrepreneurs do not only just replace their advances, but also normally receive a reward over and above the replacement of advances. As was argued, this signifies an amendment to the physiocratic views on distribution, but not necessarily to their theory of production. Cf. note 7 above.

15 He explicitly criticises the *Economistes* on this point: 'Those authors have not regarded the interest of wealth as a disposable product, they have regarded the product of the sale of things produced by fixed capital [*richesses foncières*] as the repayment [*rentree*] of those costs' (1781,I:41, note g).



'competitive' explanations to the level of wages, profits and rent.

With respect to the theory of wages, the physiocrats, as well as Turgot, Morellet and Isnard pretend that the value of labour is established through competition between 'employers' and between 'workers' (terms which, as indicated above, are a little ambiguous). These competitive forces are by and large understood to reduce the wage to a 'normal' level of wages defined by the necessary consumption of the workers. With respect to the theory of profit, it will be argued that Turgot develops Quesnay's notion of capital as a stock of durable means of production accumulated out of the annual surplus. Not only does he introduce the notion of a 'normal' rate of profit related to the interest rate, Turgot also argues that the interest rate is determined by the relation between the offer of accumulated funds and the opportunity for the 'active' employment of those funds. Finally, the writers under consideration pretend that the level of rent is established through competition between farmers and between landowners, and is based on the 'net product' which a piece of land yields. Some little-known attempts to explain the persistence of rent in the later physiocratic literature will be considered.

### 6.1. Introduction

According to the physiocrats, in a liberalised economy wages will tend towards a 'normal' level. If only food prices were left to be formed freely and obstacles to free competition among wage-earners were removed then '[...] one would see that the wages would place themselves automatically at an adequate rate following the level of prices, would reach this [rate] rather swiftly and would remain at it' (Le Trosne 1768a:125). This 'adequate rate' is generally understood in the physiocratic literature as the level at which wage-earners are able to cover their costs of living. A number of competitive mechanisms are assumed to be at work in the economy which would assure that the normal level of wages is generally maintained or restored. Most of these mechanisms are also recognised by Turgot, Morellet and Isnard. However, there is a significant degree of variation with respect to the detail with which the mechanisms are explained, the exceptions allowed for, and the presumed speeds of adjustment. This variation does not only exist between the physiocrats on the one hand and Turgot, Morellet and Isnard on the other, it also exists between the latter writers and to some extent between individual physiocrats. Still, all share the same approach to the theory of wages in the sense that the basic notion around which their ideas revolve is that the 'value of labour' is related to the necessary consumption of workers.

### 6.2 The physiocrats

#### 6.2.1 The theory of wages in the physiocrats

It is useful to distinguish between two principles which are invoked by the physiocrats in their theory of wages. On the one hand, there is the idea that competitive forces tend to establish a normal or minimum level of wages. On the other hand there is the idea that this latter wage level can be defined with reference to the normal costs of living. That these are really two distinct notions is evident in the following passage from the 'Dialogue on the Work of Artisans' where Quesnay states

[...] advantage is taken of the competition of those who vie with one another in offering their labour; [...] [But] all labour is inseparable from expense, and people devote themselves to it only in order to satisfy their needs. Competition, it is true, lowers the price of labour, but the gain which one has to procure through one's labour in order to satisfy one's need calls a preemptory halt to the unregulated decline in the price of labour which is encouraged by competition (Quesnay 1766c: 212-13).

Here competition among wage-earners is seen as the cause of the downwards pressure on wages, while the fact that wages have to be sufficient to enable workers to 'satisfy their needs' is seen as

a lower limit to the fall in wages.

With respect to the idea of competition in the 'labour market', Quesnay and his immediate followers frequently appeal to competition among wage-earners as the cause of the downwards pressure on wages.<sup>1</sup> This suggests that normally the number of available hands is large relative to the jobs offered. For example, Quesnay writes that '[t]he level of wages, and consequently the enjoyments which the wage-earners can obtain for themselves, are fixed and reduced to a minimum by the *extreme competition* which exists between them' (1767b:194; emphasis added).

However, it would be wrong to say that the physiocrats only appeal to competitive forces to explain the *downwards* pressure on wages. Competition is better seen as the immediate principle which explains both downward and upward movements in wages. Occasionally, competition in the 'labour market' is presented as an open-ended process. For example, Baudeau argues that in the case of agricultural labour

[i]t is competition which rules the wages [*salaires*] of the workers which the cultivator employs. If the farmer would not have any competitor [*concurrent*], he would only pay the least possible; [but] if there are not enough workers to go round [...], then they will hold all agricultural entrepreneurs to ransom [*ranconneroient*] (Baudeau 1767:160).

This perception of how competition fixes wages is rather crude.<sup>2</sup> Either the wage is bid down because of the large competition between wage-earners, or the wage is bid up because of competition among employers. Both phenomena tend to establish the normal level of wages.

In some cases the idea that the number of available workers relative to the number of jobs fixes the wage level, is used to differentiate between the incomes earned in different kinds of employment. For example, Mercier de la Rivière argues it is especially unskilled agricultural workers whose wages are normally reduced to the lowest level:

[...] the different professions [of all men who carry out the different works which agriculture gives rise to] are normally so easily learned, that a multitude of men are capable of carrying them out, and by men who are born without any kind of wealth; for this reason, the great competition of those workers which form themselves promptly and without costs, *necessarily* keeps their wages at the lowest possible price [...] (Mercier 1767:499-

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1 As was noted in the previous chapter, the physiocrats tend to treat industrial and agricultural labour in different manners. They tend to see industrial 'wage-earners' as selfemployed artisans. For this reason the terms 'labour market' and 'wages' in the previous sentence in the main text can be read respectively as the market for and the price of the *products* of industrial labour. This is not the case for agricultural labour as is obvious in the next paragraph in the main text.

2 Cf. Spengler (1942:204) who acknowledges that the physiocrats did not explicitly convert their arguments with respect to competition in the labour market 'into terms of supply and demand'. It can be argued that this is not just a result of the lack of sophistication compared to modern wage theory. While the physiocrats, and as we will see Turgot and Isnard, believe that, like that of other commodities, the price of labour is established through the relation between 'demanded and supplied quantities' this principle is by and large only used to explain movements towards or divergencies from the more fundamental normal wage which depends on the costs of living of wage-earners.

Due to the limited talents and skills required for jobs, the great competition between workers is also generally understood to keep down wages in industry.<sup>3</sup>

Exceptions to this rule are artisans who 'are so few [...] that competition between them does not force them to lower the price of their labour' (Quesnay 1766c:210). This situation can have several causes. On the one hand, the relative lack of competition can be the result of the fact that a job requires specific skills or talents. Le Trosne argues that

[i]f there are artists who are being paid above their indispensable costs, then this is because their talent and the studies which they have made gives them the right to consume more than ordinary workers, and they demand more because they have fewer competitors (Le Trosne 1777b:945; cf. Mercier de la Rivière 1767:588).

Quesnay notes that this reason for superior wages must be strictly distinguished from the lack of competition and higher incomes that are the result of the existence of exclusive privileges. The latter cause of superior wages is to be condemned as an unnatural restriction of competition. The former is legitimate because it recompenses those artisans 'whose professions demand very long and costly studies' (Quesnay 1766c:210).

While the physiocrats thus allow for some gradation in wages in the case of skilled labour, with respect to the large majority of wage-earners competition is understood to reduce the wage to a minimum level. It has to be said that it is quite difficult to establish what exactly, according to the physiocrats, is the content of this minimum wage. Generally speaking, it seems quite safe to say that the physiocrats take it to be a wage which allows wage-earners to subsist and reproduce themselves.<sup>4</sup> However, the interesting question is whether the content of this wage is understood to be determined by some kind of limited set of immutable physiological human requirements, or whether it is believed to cover needs which are *customarily* understood to be basic ones. In the latter scenario, necessary wages are amenable to some change over time, following social development and economic growth.<sup>5</sup>

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3 Cf. Weulersse (1910 II: 543-45) who qualifies the idea that generally both wage-earners in agriculture and industry receive the same minimum income in one interesting respect. After an increase in agricultural prices, the industrial workers will only restore their previous real wage after some time, namely after the additional income of the farmers which is the result of higher food prices, is appropriated by the landowners and spend on manufactures.

4 See e.g. Quesnay (1767b:194); Mercier de la Rivière (1767:499-500). Le Trosne (1770:23). For further references see Weulersse (1910, I: 589, II: 687, 727-30).

5 Stirati (1994) has recently argued that this notion of the normal or natural wage, (*i.e.* a socially accepted minimum remuneration for labour), is the dominant one in classical political economy. It is easily granted that such a notion of the normal wage is a more interesting conception than that of a physiological subsistence wage that has often been ascribed to classical authors. However, it is not all that clear whether 'common humanity' plays an important role in the views about the fundamental wage of the physiocrats (which are not discussed in detail by Stirati) or Turgot (who is discussed at some length (*ibid.* 36-45; 73-79). The idea that the normal

Quesnay's statement that the wage has to be enough to 'satisfy one's need' does not provide much clarity on this point. It is most likely that he has a rather restricted subsistence wage in mind.<sup>6</sup> However, he also suggests that in order to make workers industrious it should be possible for them to save a little (1767a:258). In other physiocratic writers one finds apparently contradictory statements concerning the content of the normal wage. Abeille states that there is a '[...] tacit agreement [between employers and workers] that the wage must correspond more or less to the *subsistence* and the *maintenance* of the worker' (Abeille quoted by Weulersse 1910, II, 556). Mercier de la Rivière writes that if one examines what the normal level of wages of the mass of workers is, then

[...] you will see men reduced to a consumption which one can consider as the strict necessary [*l'étroit nécessaire*]; [...] their wages [are] at the lowest possible price, I mean to say at a price below which one finds only indigence and misery, scourges always destructive of the classes of men for whom they constitute the habitual state (Mercier de la Rivière 1767:499-500).

While this suggests that the normal level of wages is assumed to be near some physiological subsistence level, Le Trosne gives a more generous definition. The income of the worker will normally be sufficient not only for his personal food consumption

[...] but [also] for the expenses of him and his family on clothing, furniture etc. In addition that wage must cover the house rent, and if it exceeds those various items then the surplus [*excédent*] must be kept in reserve for the case of accidents which, since they require expenditures in excess of his daily income, would reduce him to beggary, if he had not made the precaution of saving over a long time a little to meet them (Le Trosne 1777b:947-8).

Le Trosne's emphasis on the need for wage-earners to be able to make some savings, by earning a little more than what is strictly necessary for their present survival, is also found in Turgot (see section 6.3).

It has to be noted that the apparent discrepancy with Mercier de la Rivière's statement can be exaggerated. That is to say, Mercier's opinion that the incomes of wage-earners are normally reduced to 'the strict necessary' is specifically used as an argument against the imposition of indirect taxes on food. It is conducive to the physiocratic position on taxation to argue that wages are at an absolute minimum subsistence level. The latter assumption makes it impossible that workers are able to pay for higher food prices resulting from an indirect tax, unless their money wages are increased

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basic wage is a customary one, necessitates that it is studied from a sociological perspective. Moreover, it justifies the view defended by modern exponents of the surplus approach that the wage can be assumed as given in the context of specifically theoretical economic issues such as the determination of relative prices and distribution.

6 See e.g. Quesnay (1757b:86) where it is argued that man's consumption consists of about three *setiers* of corn a year.

by the amount of the tax.<sup>7</sup> Le Trosne's opinion that workers are normally capable of earning a little surplus above that 'strict necessary' does not help the argument against indirect taxes on consumption. It is therefore not repeated in that particular context (see e.g. Le Trosne 1770:22-3). This example suggests that the physiocrats are opportunistic enough to somewhat adapt their definition of the content of the normal minimum level of wages to suit the economic arguments they are making. This throws some doubt on the question whether they have a well-defined idea of this content at all.

Other indications with respect to the idea of the existence of a normal minimum level of wages are obtained from passages addressing the question what would happen to wage-earners if real wages would fall below this level. Mercier de la Rivière, goes so far as to argue that if real incomes were not maintained and an indirect tax would reduce wages below the subsistence level then part of the working population would actually starve quite soon: 'a state of *excessive* misery, [would be created] a *homocidal* state for men born and to be born alike' (1767:500). This appears to be a rather extreme position not often repeated by other physiocrats. It is certainly true that Quesnay acknowledges the existence of a relationship between the natural growth and decline of the population and the general level of incomes of the 'lower orders of people'. However, this relation does not seem to be very narrow (see below 6.2.2).

Instead of warning against the instant increase in mortality rates resulting from a decline in real wages, Quesnay confines himself to stating that it is futile or even harmful to try to reduce wages below the minimum level. If 'wages and employment are at too low a level', the 'lower classes' will become 'idle men, poachers, vagabonds, and robbers' (Quesnay 1767a:258). Moreover, Quesnay suggests that if through the imposition of an indirect tax on food, real wages would fall below the minimum level, then people will either emigrate 'in order to settle in other nations where their subsistence is more assured and their industry more protected' (1767b:194).<sup>8</sup> Or 'if wage-earners [...] are unable to emigrate in order to get back to their former level, they will become

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7 According to the physiocrats the single direct tax on rent (the *impôt unique*) is the only effective way of generating income for the state. They try to demonstrate that any other kind of tax will eventually fall upon the income of landowners. The opinion that wages are at the subsistence level and that therefore an indirect tax on food must lead to an increase in money wages is related to this argument. The increase in the wages of agricultural workers, allowing them to purchase the same minimum amount of subsistence goods previous to the imposition of a new tax, leads to an increase in the costs of cultivation incurred by the farmers. This in turn means that eventually (at the renewal of the lease) the amount of rent which farmers are able to pay is reduced. The increase in the wages of artisans for the same reason, means: a) an increase in the costs of the necessary manufactures purchased by farmers, leading eventually to the same decline in rent received by landowners; and b) the prices of luxury goods will rise, leading to a fall in real income of the landowners. In each case the landowners eventually pay the increase in taxes.

8 As a result of this emigration '[...] the small number of them who remain in the country, being less constrained by competition, will lay down the law to the first distributors of the expenditure [*i.e.*, the farmers], and force them to pay the normal wage [...]' (*ibid.*).

beggars or thieves- a kind of arbitrary and walking indirect tax [...]’ (1767b:194; cf.202.). Thus, rather than immediately leading to an increase in mortality, a reduction in real wages below the normal level results in attempts of (potential) wage-earners to obtain alternative sources of (non-market) income.

Quesnay’s opinion that it is harmful to try to reduce real wages below the normal level, and his condemnation of ‘extortioners’ with ‘hateful and destructive maxims’ (1767a: 285) expressing opposite opinions, is interesting for another reason. Apart from reducing the motivation of wage-earners,<sup>9</sup> low wages have an important harmful ‘macroeconomic’ effect. Since the mass of the demand for agricultural goods comes from wage-earners buying subsistence goods, a reduction in their real incomes will depress agricultural prices. Indeed, the fact that the large majority of consumers in the country are too poor to buy food at prices which are favourable to farmers is seen by Quesnay and his followers as a major cause of the depressed state of the French economy.<sup>10</sup> It is thus in the interest of farmers not to try to force the level of wages below the normal level, but to pay this normal wage both in order to motivate the wage-earners and to guarantee a sufficient effective demand for the produce (see Quesnay 1767a:236).

This and other arguments have the effect of playing down any possible conflicts of interests between employers and wage-earners in the distribution of incomes. The physiocrats take a strikingly optimistic view about the capacity of freely competitive market forces to reconcile the interests of all classes. This is especially evident in the context of their defense of the opinion that liberalisation of the grain trade leading to the establishment of *bons prix* for agricultural goods, will not be disadvantageous to wage-earners, while being advantageous to agricultural entrepreneurs. In order to defend this position they have to maintain that money wages will adapt quite rapidly to higher food prices. The arguments which they use to support this conviction are not very convincing and attract considerable criticism by their opponents.

A first problem with the physiocratic position is that it seems unclear why agricultural entrepreneurs would benefit from higher agricultural prices if it is not at the expense of workers. Either the (wage) costs incurred by farmers increase in the same proportion as the prices of his produce in which case he does not benefit, or they do not increase, in which case his benefit is at the expense of the wage-earners.<sup>11</sup> Possibly the physiocrats reason that higher agricultural prices

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9 This point is stressed by Weulersse (1910, II: 546-7) and later by Spengler (1942:210-11).

10 Cf. section 4.3.1 above and Vaggi (1987: 106-9).

11 This point is already made by a number of contemporary opponents of the physiocrats (see Weulersse 1910 II:564). Vaggi (1987:177) notes that the physiocratic analysis of prices unwittingly highlighted the conflicting nature of class interests in French society. He argues that the physiocrats argue for a shift in relative prices in favour of agricultural prices and at the expense of the prices of manufactures. Cf. Weulersse (1910, II, 413-4, 564).

temporarily improve the income of farmers allowing them to expand production. After money wages have adapted to the higher food prices, wage-earners benefit not so much from higher daily wages in real terms, but from the fact that they find more employment due to the higher level of production in the economy.<sup>12</sup>

Second, supposing that money-wages do adjust quite rapidly to the higher prices of subsistence goods, what is the mechanism explaining this adjustment? The physiocrats appeal to the forces of competition. Higher agricultural prices lead to increased production and a greater demand for labour. Competition between employers will bid up money wages. Admittedly, Le Trosne writes, this adjustment will not be instantaneous.

[At first] the wages will not noticeably increase for every man: the day's labour will continue to be worth 10, 15 and 20 *sous* according to the region and the type of work; but 15 men will be employed instead of 10, and soon the competition among those who demand their labour will raise their wages to the point where it should be (Le Trosne 1768a:126).

This argument describing the upward adjustment of money wages implicitly assumes that there is not normally a large labour reserve in the economy. This view seems at odds with the more frequent statements in the physiocratic literature that there exists a downwards pressure because of the 'extreme competition' among wage-earners. It also disregards the possibility that wage-earners may not be in a position to hold out for a higher wage due to their urgent need to obtain an income. These points are seized upon as being highly unrealistic by numerous critics of the physiocrats.<sup>13</sup> Linguet, one of the fiercest critics of the physiocratic opinion that wage earners will not persistently suffer from higher agricultural prices, writes

The fixation of that balance [between the prices of food and labour], which should be hastened, will for a long time be retarded by the very causes which make it more necessary: by the indigence of the poor man and his needs. The more he is pressed by famine, the less he dares to bargain about the price of his work; the more he is in need of being paid higher, the more he is forced to work at a low wage, because if he refuses the possibility of work today, he will be dead of hunger tomorrow. He therefore works at any price: he suffers, he goes without food, he dies; and the *Economistes* draw up nice systems in order to prove that he is wrong (Linguet *Lettres sur la Théorie des loix civiles* 1770:174; quoted in Weulersse 1910, II, 565).<sup>14</sup>

This biting criticism highlights an important aspect of the physiocratic wage doctrine. The fact that the physiocrats assume a smooth adaptation of money wages is not satisfactorily explained by the observation that their approach is insufficiently 'empirical', causing them to play down many factors

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12 Weulersse (1910,II,556) presents some evidence that in the end it is the 'continuity of work and wages', rather than an increase in real wages which is seen by the physiocrats as the principal advantage which wage-earners can expect from the revival of French agriculture. Given the undoubtedly more casual nature of employment at the time, this is not an unimportant argument. It is also used by Turgot (note 49 below).

13 See Weulersse (1910, II: 562-5).

14 A good study of Linguet's political and economic ideas and his role in the political complications at the time is Levy (1980). Chapter three provides a detailed discussion of his opposition to the physiocratic doctrines and clearly establishes the ideological aspects of the liberalism of the *economistes*.



which may prevent that real wages are kept at a 'normal' level (e.g. 'stickyness' of money wages, underemployment of the working population, the severity of the effects of harvest failures). One gets the strong impression that there is a specific ideological point at stake, namely that no intervention is necessary in order to ensure that the subsistence needs of the working population are met. It is this point which Linguet attacks. He denounces the physiocratic theory of wages as a cynical intellectual exercise to deny the poor their *right* to subsistence.

In several instances the more doctrinaire liberal writers of the period, especially the younger physiocrats and allies like Turgot and Morellet, do indeed maintain that the private property of farmers and merchants should always be respected. They argue that the rights of 'sellers' (farmers, merchants) should not be violated in favour of the needs of 'buyers' (consumers). This is so in the last instance simply because the former have perfect and exclusive property claims to their possessions. As the abbé Roubaud expresses it rather bluntly:

[...] needs are not rights at all, and rights are before everything, and everything that violates rights is violence and tyranny [...] I will add that the right of a single person must prevail over the interests of all without rights, because justice [*i.e.*, the respect for private property] is the supreme, universal and unique law (Roubaud *Réprésentations aux magistrats* 1769; quoted by Levy 1980:106).<sup>15</sup>

Diametrically opposed to this, Linguet insists that the fundamental right of the poor to subsistence should overrule any other property claim. In his *Réponse aux docteurs modernes* (1771) he asserts that

[...] every living being has right to demand food. His teeth and stomach, these are his license. He holds it from nature, and this is the most respectable of all chancelleries. His first duty, and the most sacred, is to take care for his preservation, to look for his subsistence; from this duty follows the right, when need drives him so sharply as to expose his life, to take possession of everything that can satisfy him. Society has been able to determine the manner of enforcing it, to insist on equivalents, to modify how it is exercised, but it has not been able to annihilate it (Linguet 1771, II, 53-4; quoted by Levy 1980:104).

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15 The argument that the laissez-faire policy in the corn trade is a matter of natural justice is quite common in the physiocratic literature. For example, Le Trosne (1768a :110-12) puts forward the argument that any interference, like the forced sale of produce at lower than the actual market price, violates a) *la liberté personnelle* generally, or the freedom of contract and movement, b) the *propriété mobilière*, or the ownership in moveables, of merchants, c) the *propriété mobilière* of the farmer and d) even the *propriété foncière*, or the ownership in land, '[...] because the soil is only valuable because of its fruits, and the fruits are only wealth because of their value'. Similarly, the overriding importance of the protection of private property, as opposed to the provision of the poor is clearly stated in the following passages in the *Ephémérides*: 'The first duty is to be *just*. Afterwards one can be charitable or an astute politician, but the first thing is to leave to every person that what belongs to him, and never to rob one person under the pretext of doing good to another [...] There has been too much reasoning about grain, as if it belonged to everyone indiscriminately, and as if, consequently, it was the place of the king, the government, the magistrates, to dispose of it with what one calls the public utility in mind [...] (*Ephémérides* 1767, vol XII, 103, 105; quoted by Levy 1980, 132-33, note 5). The writer seems to refer directly to the Grotian distinction between perfect rights (respect for private property) and imperfect rights (benevolence, statemanship) See Haakonssen (1985:66). See Appendix A. Cf. Morellet's views below section 6.4.

It is quite important to note that for the physiocrats the insistence on the primary importance of the respect for private property rights of farmers and merchants does not mean that the needs claims of the poor to subsistence can be ignored. On the contrary, the latter right is affirmed, even posed as a first principle, by the *Economistes*.<sup>16</sup> The emphatic endorsement of the universal 'right to means for enjoyment', especially when expressed in the stylish argumentation of Mercier de la Rivière, not only temporarily won the sympathy of *philosophes* like Diderot.<sup>17</sup> It also highlights a tension within physiocratic doctrine.

On the one hand, it is alleged that every human being has a right to 'things which are proper to his enjoyment' and that by virtue of this all humans share claims in the common bounty of nature. On the other hand, private property rights are perfect and exclusive, which means that the propertyless do not have a legitimate claim to the plenty of the rich. In effect, the physiocrats deny that there is a conflict between these two principles. To some extent their theory of wages is designed to support this crucial ideological point. They argue that in the liberalised economy which they advocate, the poor will be able to acquire plentiful subsistence *by working* without violating anybody's property rights.<sup>18</sup>

Interestingly, Le Trosne explicitly addresses the problem of the antinomy between needs claims, and claims to exclusive enjoyment of private property. His discussion follows a traditional account of the emergence of private property in land as a necessary response to the growth of the population, the number of the needs of man, and the corresponding development of agriculture as

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16 '[...] the right to exist is the first of all rights and the source of all others; it contains essentially the right to take the physical means which nature offers and suggests to us for enjoyment' ( Le Trosne 1777a:28). Cf. Quesnay (1765:43); Mirabeau *Théorie de l'impôt* 29, Mercier de la Rivière (1767 ch. xvii).

17 After reading Mercier's *L'Ordre naturel* in 1767, Diderot was converted to the physiocratic doctrines which he believed contained his own humanistic vision of a beneficent universal reason. However, in June 1769, upon returning to Italy, Galiani left the manuscript of the *Dialogues sur le commerce des blés* in his care and that of Mme. d'Epinay. His subsequent publication of Galiani's elegant eye-opener, and his visit to Langres in the summer of 1770 where he witnessed the effects of foodshortages on the population, turned him against the physiocratic theories. The literary result of this was his *Apologie de l'abbé Galiani* (1771). See Strenski (1967). Cf. note 55 below.

18 The formulation in the main text is chosen to indicate that the moral aspects of the physiocratic theory of wages, as well as the arguments of some of the critics against it, can be seen in the context of an ancient theme in the natural jurisprudence tradition in early modern Europe. The intellectual history of this theme is outlined Hont and Ignatieff (1983), who relate the debate especially to the economic theories of Adam Smith. The experiments with the liberalisation of the corn trade of 1763-4 and 1774-6, and the frequent bad harvests of the period, also gave the issue a renewed urgency in France. As Kaplan (1976 xxvi) argues in his study of the political, social and economic aspects of these experiments, the great significance of the reforms of 1763-4 was that by '[r]enouncing a stewardship it had exercised, so it seemed, from time immemorial, the royal government broke an unwritten covenant with consumers and proclaimed that subsistence was no longer its overriding responsibility. [...] The politico-moral claims of the people were superseded by the natural rights of proprietors in the esteem of the king. Subsistence became a matter for the individual to work out on his own'. A brief discussion of the needs versus property rights theme in the natural jurisprudence tradition is given in appendix A.

a means to use natural resources in a more effective way to meet the increased demand. Having concluded from this account that 'the exclusive property of land and its products [*du fonds & des fruits*] [...] is a necessary institution', Le Trosne poses the following question:

But does it [the exclusive property in land] accord itself with the right to exist which is common to everyone? [...] not all men have acquired a plot in the sharing out [of land]. I see everywhere boundaries erected to separate the farmlands, extended properties are enclosed, and nothing is left free. I see at the same time an infinite number of men who have obtained nothing, [or] who have lost what their fathers possessed. Where then is their portion? From where will they draw their means of subsistence? (Le Trosne 1777a:31-2).

Le Trosne insists that the answer to this question is that those people who neither own land, nor moveable wealth, can obtain an income from selling their labour. Properly speaking the poor are not propertyless since they possess the ownership in their own person, or *propriété personnelle*. Employment arises from the very inequality in the distribution of land and the social division of labour:

The one who has more land than he can cultivate himself, is forced to associate himself with other men [*i.e.*, agricultural labourers], and to share the produce with them. The one who has more [agricultural] products than he can consume, also has other needs which he can only satisfy himself by diverting from his labour. The richer he becomes, the more he wants to enjoy, and he can only enjoy by spending of which others [*i.e.*, artisans] profit. (1777a:33).

It is because of this interdependence of economic activities, the reliance of landowners on agricultural labour for production, and on the labour of artisans for non-agricultural consumption, that all can at least obtain their means of subsistence.

Through this wise economy, [providence] perfectly reconciles the rights of property, which are exclusive by nature, with the right which everyone has to exist [...] (1777a: 34).

This conclusion must be seen as an important claim with respect to the distributive justice of the private property economy envisaged by the physiocrats.<sup>19</sup> It has direct implications for their theory of wages, since it is specifically this part of their economic doctrine that has to substantiate that wage-earners will normally be able to earn an income which at least covers their subsistence. In this sense the theory of wages of the physiocrats also fulfils the function of demonstrating that the freely competitive economic system tends to lead to a *just* outcome for wage-earners.

### 6.2.2. The theory of population

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19 Cf. Le Trosne (1768b:43 n) where it is argued that government should confine itself to the protection of a small set of perfect property rights, '[...] because the simpler the machine [*i.e.*, society] is organised, the better it works [...] As soon as those singular laws are observed and they assure in a known and constant manner the property of goods then distributive justice is equally dispensed'. This is reminiscent of the interpretation that Adam Smith saw his 'system of natural liberty' as embodying distributive justice; see Worland (1980), Hont and Ignatieff (1983).

Another, somewhat related question is 'what mechanism assures that there will be enough employment for the whole working population?' It is noteworthy that in the physiocratic discussions of wages an explanation is lacking of why every wage-earner would be able to find (sufficient) employment. In Quesnay's theory the annual reproduction of agricultural goods is considered as the magnitude that sets limits to the total amount of wages paid and employment available in the economy as a whole. In the final analysis, all 'wage-earners' (*salariés*) are paid out of the agricultural output (see Quesnay 1766c:210). Given the opinion that there is a definite lower limit to the level of wages defined by the costs of subsistence, it is hard to see what would guarantee that all wage-earners would find employment at this minimum level of wages. Indeed, as we saw above, in order to explain the downward pressure on wages the physiocrats implicitly assume the existence of a considerable reserve labour force causing an 'extreme competition' among wage-earners.

However, this interpretation is explicitly denied by Spengler (1942:207) who maintains that in physiocratic theory '[...] the source of the downward pressure on wages is not the existence of a reserve army of unemployed'. Instead, he argues, '[...] the physiocrats found the main source of downward pressure upon the general wage level in the strong procreative proclivities of man' (*ibid.* 208). Spengler is undoubtedly right to argue that there is some connection between the theory of wages and the theory of population in physiocratic economics. Indeed, the only suggestions which Quesnay and his followers offer as an answer to the question why all wage-earners would in principle be able to find employment are found in their demographic views. However, it is difficult to agree with Spengler's assessment that '[t]he wage theory of the physiocrats was in essence but a corollary to their demographic theory' (*ibid.*202). Instead, the implications of their demographic theory for their theory of wages and employment are not that straightforward.

The general position of the physiocrats is that the growth and decline in the size of the population, through natural causes and through migration, must be considered the result of changes in the level of production in the economy. The point that the size of the population is the result or effect of the wealth generating potential of the economy, is particularly emphasised by the physiocrats in their rejection of so-called 'populationists' who argue that the causal relationship is the other way around.<sup>20</sup> As Hecht notes, populationist views had been on the wane in France from

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20 The point that Quesnay's theory of population involved a reversal of populationist views is made in rather dramatical fashion in a famous letter by Mirabeau, intended to win Jean-Jacques Rousseau for the physiocratic cause. (Letter of 30 July 1767 from the marquess de Mirabeau to J.-J. Rousseau in Rousseau (1922, vol. 17, pp.169-81). Cf. Meek (1962 introduction)). In this letter, Mirabeau relates his own 'conversion' to Quesnay's economic theories. He recalls that prior to his first meeting with Quesnay in 1757, his opinion about this relation between the size of the population and the productive capacity of the economy had been that since goods are produced through the application of labour, '[...] the more men there are, the more labour will there be; the more labour there is, the more wealth there will be. The way to achieve prosperity is therefore: 1. to increase men; 2. through these men, to increase productive labour; 3. through this labour, to increase wealth'

the first decades of the 18th century.<sup>21</sup> The general idea that the production of subsistence goods should be seen as a precondition of demographic growth started to be expressed by a number of writers, like Boisguilbert, Fénelon, Vauban, Melon and Cantillon (Hecht 1994:72). This idea fits very well with Quesnay's opinion that agriculture is the source of all wealth.<sup>22</sup>

While it is clear that the physiocrats believe that chiefly through changes in the food supply, the size of the population tends to adapt to the level of production in the economy, the interesting question is how precisely and swiftly this adaptation is supposed to occur. Unfortunately they are ambiguous on this point. For example, Baudeau in one place (1767:162) asserts that '[...] the number of people is always proportioned to the total production'. This suggests an almost perfect population mechanism. At the same time, statements can be found which either suggest that the population tends to exceed the capacity of economy to support it,<sup>23</sup> and the opposite that the population does not tend to grow as fast as the economy.

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(Rousseau 1922,17:176). This typical 'populationist' view that the multiplication of productive workers is the principal way of increasing a nation's wealth, was ridiculed by Quesnay. Mirabeau was told that he had put the cart before the horse [*que j'avais mis la charrue avant les boeufs*'], since the causal relation was the other way around. The employment of the population was not the cause, but the effect of an abundant consumption and reproduction of wealth. It is likely that Mirabeau exaggerated the extent to which Quesnay's ideas were novel, possibly to further the dramatic effect of the meeting between the two men, the confrontation of their ideas and the 'revelation' and 'conversion' on Mirabeau's part. This is somewhat unfortunate specifically with respect to Cantillon's views. As Aspromourgos (1996:113) points out '[...] Quesnay imputes to Cantillon a doctrine which he does not espouse; but the accusation nevertheless seems to have been accepted in much of the secondary literature. The irony is compounded by the fact that Quesnay actually shares Cantillon's actual view: that wealth determines population'. Perhaps one should say that *according to Mirabeau's account*, Quesnay imputes to Cantillon a doctrine which he does not espouse. It seems possible that the confusion is merely the result of Mirabeau's zeal to win over Rousseau. This leads him to discredit Cantillon in order to emphasise the superior insights provided by physiocratic theory. *Inter alia*, Mirabeau's attempt was to no avail. Despite hospitality shown by Mirabeau, and a polite attempt by Rousseau to read the *Philosophie Rurale*, the latter remained uncommitted (see especially Rousseau 1922,17, letter 3390, p.106, and letter 3399, p.117).

21 She describes the gradual shift in population theory from the end of the reign of Louis XIV in the following manner: 'From being a cause, the population becomes a consequence and the sign or indicator of prosperity and of the excellence of the government. It is the yardstick by which wealth is measured which is nothing but the abundance of conveniences and pleasures necessary to life. A new ideal takes shape: the maximal population is substituted for the optimal population and the economy of power for an optimum of wealth, of well-being and happiness shared by the greatest number, in a perfect harmony of individual and collective interests' (Hecht 1994:70-1).

22 Certainly, Quesnay attaches a more specific significance to the idea that the food supply determines the size of the population, by using it as a support of the doctrine that agriculture is the 'source of all wealth'. Earlier writers can perhaps be said to mainly emphasise the 'primacy' of agriculture. See section 3.2.

23 Quesnay (1766b:151): '[...] it should not be forgotten that wherever the population enjoys a peaceful life it normally increases beyond the product of the territory; [...]'; Le Trosne (1777b:897): '[the population] is always proportioned to the means of subsistence, although she exceeds them sooner than remaining below them'. Schumpeter (1954:257) stresses this opinion, and argues that Quesnay anticipated Malthus' theory of population 'in all essentials' (*ibid.* 234). Indeed, in 1817 Dupont claims that '[...] the work of M. Malthus is a long but learned commentary on the maxim of the French *economistes* that "The measure of subsistence is that of population"' (*Examen du livre de M. Malthus sur le principe de population*; quoted by Hecht (1994:75). However, the similarity between Quesnay's and Malthus' theories of population should not be exaggerated. See my argument on the next page in the main text.

One gets the impression that the physiocrats primarily have a long term relationship between the level of agricultural production and the size of the population in mind. This is so both with respect to the decline in population which they believe has resulted from the 'disorders in administration' since the reign of Louis XIV,<sup>24</sup> and with respect to the growth of the population which they expect from the adoption of a liberal policy in favour of agricultural production. Both long term movements in the size of the population are associated with the general level of wages. The decline in population is associated with wages below the minimum level.<sup>25</sup> As noted, this does not necessarily mean that the physiocrats believe that mortality rates increase dramatically in this situation. Instead it seems that they more generally believe that the number of unemployed or underemployed poor people increases which will not be able to raise a family.

On the other hand, it can be said that the growth of the population resulting from the revival of the agricultural sector, is associated with wages which are above the subsistence level.<sup>26</sup> This implies that the physiocrats assume that when the economy is growing, population growth would not be as fast as the increase in employment, allowing wages to remain above the minimum level. However, this point is rarely precisely stated.<sup>27</sup> Instead of providing a detailed explanation of the expected improvement in the lot of wage-earners, this seems to be an implication of the Quesnay's general conviction that the economic reforms he advocates would not only result in a large population but also lead to general spread of prosperity.

Still, this optimistic expectation of the *economistes* is relevant for the theory of wages for one particular reason. The physiocrats do not believe that the agricultural sector is anywhere near fully utilising the physical capacity of the available arable land in France. It is true that they do generally assume that there are physical limits to the increase of agricultural production and hence to population growth.<sup>28</sup> However, this is seen as a rather distant prospect which is not immediately relevant for economic theory. As a result the physiocrats certainly do not associate population growth

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24 In 'Corn' (1757:83) Quesnay writes that in 1650 the population of France was 24 million, in 1701, 19.5 million, at the close of the war of Spanish Succession, 15.5 and in 1750, 16 million.

25 See Mercier (1767:518) and Le Trosne (1777b: 897, 948) who describe a 'downward spiral' resulting from a decrease in wages, leading to a decrease in demand for products, to a decline in agricultural production, and to a fall in the size of the population.

26 This is argued for instance by Spengler (1942:209-10). For physiocratic statements to this effect see Weulersse (1910, II: 543, 545, 553-4).

27 This in contrast to Turgot (see the next section). The opposite opinion that population growth tends to outstrip growth in the foodsupply can also be found (see note 23 above).

28 Some physiocrats hazard an estimation of the maximum French population that could be supported. Saint-Péravy estimates that population may grow to 25 million, Mirabeau thinks 30 million (Weulersse 1910, I, 288). Considering that just before the revolution the French population was probably already 26 to 28 million, these seem conservative guesses. However, considering that Quesnay estimates the actual French population at 16 million in 1750, the estimates of the supportable population mean that the physiocrats believe that considerable growth is possible. For other estimations of contemporaries see Hecht (1990).

with a deteriorating condition of the class of wage-earners. The existence of a Malthusian type of 'iron law of wages' is not implied by the physiocrats.<sup>29</sup> In a word, one should be careful not to overstate the logical connection between the physiocratic population theory and their theory of wages and employment. It is neither explicitly used to explain the level of wages, nor to argue that unemployment is only a transitory phenomenon.

### 6.3. Turgot on wages

Turgot's theory of wages can simply be said to consist of a number of more precise elaborations and qualifications of the physiocratic opinions on the subject.<sup>30</sup> Most importantly, the notion that there exists a 'normal' wage defined by the necessary consumption of workers, plays the same central role in Turgot's theory. This is especially clear from a passage in a letter to Hume (dated 25/3/1767). After agreeing with his correspondent that the relation between offer and demand '[...] is the unique principle which immediately fixes the price of all things which have a value in trade', Turgot adds

[b]ut one has to distinguish two prices: the *current price* which is established by the relation between offer and demand, and the *fundamental price*, which in the case of a merchandise is that what the thing costs to the worker. In the case of the wage of the worker, the fundamental price is the cost of the worker's subsistence. [...] although the fundamental price is not the immediate principle of the current value, it is nevertheless a minimum below which it cannot fall (Schelle 1913-23, II:663).

Turgot uses very much the same arguments as the physiocrats to maintain that free competition tends to keep the wage close to its 'fundamental level'. He also seems to share to a large extent their opinions concerning the beneficent nature of this result.

It should be noted that Turgot is not under the illusion that his idea of free competition in the labour market conforms to the manner in which wages are actually established in most trades in France in the 1760s. Rather, he believes that the 'relation between offer and demand' is the natural

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29 Spengler (1942:188) acknowledges this when he notes that Quesnay did not believe that 'population pressure was foreordained'. The point that the physiocrats (and Turgot, Morellet, and Isnard) do not generally consider *physical* limitations to economic growth and population growth as having immediate relevance to their economic analysis is also important for the theory of rent. According to these writers the principal factor which slows down economic expansion is a lack of capital, or the absence of market conditions and government policies which encourage capital accumulation. Even Turgot, who clearly understands the principle of intensive diminishing returns, does not believe that even in the most capital intensive agricultural regions diminishing returns have set in. This in contrast to Auxiron in whose economic theory diminishing (extensive) returns caused by physical constraints to the expansion of agricultural production play an important role. See section 8.3.3 below.

30 This interpretation is not shared by Spengler (1942) who classes Turgot among the 'nonphysiocratic economists'. Stirati (1994), in contrast to Morilhat (1989), does not pay much attention to the affinity between Turgot's theory of wages and those of the physiocrats.

principle according to which wages *should* be established. This conviction is clearly expressed in the 'Observations on a paper by Graslin', where he insists that

[...] wage labourers must be *completely free* to work for whom they desire, in order that the employers, by contending for them when they need them, may place a just price on their labour; and that, on the other hand, the employers must be *completely free* to use such men as they deem proper, in order that the local workers may not, by taking advantage of their small number, force them to increase wages above the natural proportion which depends on the stock of wealth, the value of subsistence goods, the amount of work available and the number of workers, but which can never be settled by anything other than competition and freedom (Turgot 1767b:127).

There is a distinct moral aspect to his case for the liberalisation of the labour market. This is quite clear from his *Edit de suppression* (1776), promulgated in his capacity of controller-general. His main argument in favour of the abolition of the guilds is that the *esprit de monopole* among the small number of rich artisans controlling the activities of the diverse crafts restricts the employment of simple workers, while increasing their costs of living. As such they obstruct the exercise of the right of the poor, who '[...] only have the property of their labour and their industry', to earn their subsistence by working.<sup>31</sup>

If only free competition would be introduced both in the markets for subsistence goods and the labour market, then a 'natural proportion' between the value of foodstuffs and labour would automatically establish itself.<sup>32</sup> The arguments used by Turgot to explain why, on the one hand, wages tend to be reduced to the fundamental level, and on the other hand why they do not tend to fall below this level are reminiscent of the physiocrats. With respect to the downward pressure on wages he appeals to the great competition among workers.

The [employer] pays [the worker] as little as he can; because he has the choice among a great number of Workmen, he prefers the one who works cheapest. The Workmen are therefore compelled to lower their price in competition with one another. In every kind of work it must, and in effect, it does happen, that the wages of the Workman are limited to what is necessary to procure him a subsistence (Turgot 1766:46).

The large number of workers relative to the available work seems to be Turgot's principal argument

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31 In this *Edit* the *right* of workers to sell their labour and thereby to earn their subsistence is emphasised. 'By giving needs to man, and by making the resource of labour necessary to him, God has made the right to work, the property of every man, and that property is the first, the most sacred and the most imprescriptible of all [...] We owe to all our subjects the ensurance of the full and entire enjoyment of their rights; we owe this protection especially to that class of men which, only having the property in their labour and their industry, have all the more need and right to employ, to their fullest extent, the only resources which they have to subsist' (Schelle 1913-23, V:238-9). The assumption is of course that a freely competitive labour market can be relied upon to ensure a sufficient wage level. Cf.note 52 below.

32 Apart from the passage in the 'Observations on a paper by Graslin' cited above, another statement to this effect can be found in the letter to David Hume of 25/3/1767, where Turgot advances the opinion that '[...] a kind of equilibrium establishes itself between the value of all the products of the land, the consumption of all the different kinds of foodstuffs, the different types of works, the number of men who are occupied by it, and the price of their wages' (Schelle II:663). Also the seventh letter on the grain trade is largely devoted to the 'necessary proportion between the price of commodities and the price of labour' (1770b:175).



to explain the downward pressure on wages. This argument is somewhat in conflict with his theory of population (see below). Recently, Stirati has emphasised that Turgot also uses the argument that the level of wages is normally restricted to the minimum level because of an inequality in the bargaining position between employers and workers. This interpretation is mainly based on a passage in the seventh letter on the grain trade where Turgot argues that the level of wages, (which is generally based on grain prices), does not take into account the high prices in times of dearth. This is so, because

[wage-earners] will not foresee and forecast the possibility of a dearth in order to force those who pay them to raise their wages; for, whatever this distant future may be, they must live at the present time, and if they make themselves too hard to please, their neighbour would take the work at a lower price (Turgot 1770b:178).<sup>33</sup>

Turgot here injects a healthy dose of realism into his discussion of wages by allowing for the fact that money wages are normally too inflexible to compensate for seasonal variations in food prices.<sup>34</sup> It is one instance in which he shows himself a more subtle writer than most physiocrats. However, it is somewhat exaggerated to ascribe to him a 'force theory' of the determination of wages. If Turgot would have held the opinion that workers are systematically at a disadvantage, it is difficult to see why he argues that the establishment of competitive conditions on the labour market would lead to *voluntary* agreements between employers and workers leading to a *just* price for labour. Furthermore, too great an emphasis on Turgot's force argument creates the mistaken impression that his ideas come close to the harsh social realism of Necker or Linguet.<sup>35</sup>

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33 This passage is preceded by the following reflection: [t]he daily wage, like the price of everything else, is determined by the relationship between offer and demand, that is, by the reciprocal need of those who give work and those who have to live by working. Wage-earning people, in good and bad years alike, have no other means to live than by working; they will therefore, offer their labour, and competition will force them to settle for the wage necessary for their subsistence'.

34 Morilhat (1988:162) argues that Turgot by means of this explanation tries to account for the fact that in France in the period from 1726-41 to 1771-89 the costs of living increased by 62% while wages only increased on average by 26%. Figures from P. Léon *Histoire économique et sociale de la France* vol. II, 672.

35 Stirati (1994:38) strongly suggests the similarity between Necker's and Turgot's force arguments, quoting the former on this point in a section devoted to the latter's ideas with the justification that 'Necker expresses himself with more clarity than Turgot'. In this particular case, Spengler (1942:287) seems historically more correct to contrast the views of both men. Necker's agitation against Turgot's liberal policies contributed much to the latter's fall from power and the former's ascendancy to the position of *Directeur-général des finances* in 1777. In *Sur la législation et le commerce des grains* (1775), Necker emphasises the ability of employers to force workers to accept low wages because of their smaller number, and the fact that workers need to subsist (see e.g. I, 163-5, cf. discussions in Spengler (1942:324-333), Stirati (1994), Di Rienzo (1994:446-9)). In a later work Necker directly attacks Turgot's notion that there are impersonal forces at work which establish a 'natural proportion': 'It is [...] not at all upon the principles and relations established by a natural and considered reason that the wage of the multitude of men is fixed. It is a contract of force and constraint which uniquely derives from the rule of power and the yoke to which the weak have to submit themselves' (Necker 1788; quoted by Di Rienzo 1994:447 n.41). Perhaps it must be granted that in Turgot's theory the level of wages are not determined by a 'considered reason', but by economic forces. However, these forces are by and large seen as beneficent, and Turgot surely has similar concerns as the physiocrats to emphasise the harmonious

According to these latter writers, employers enrich themselves by exploiting the workers. This idea which does not fit well with Turgot's belief in the natural justice imbuing the system of free competition. In the above passage, Turgot is primarily concerned with explaining why fluctuations in agricultural prices are harmful to wage-earners. He argues that liberalisation of the corn trade will make both the supply and the prices of subsistence goods more stable (see section 4.2). This will mean a more constant purchasing power of workers' wages. Turgot does not conclude from the disadvantageous situation in which the lower classes do actually find themselves that the employers are at fault (as implied by Adam Smith [1776, I,viii,65]), or that workers should organise themselves.<sup>36</sup> Instead he expects an improvement in the real incomes of wage-earners from a rigorous liberalisation of the trade in subsistence goods and of the labour market.

With respect to the possibility that the real wage falls *below* the fundamental level Turgot argues, like Quesnay, that if this happens workers will 'become beggars or they emigrate' (Letter to Hume; Schelle 1913-23, II:663).<sup>37</sup> Moreover, it is not in the interest of employers to try to reduce wages below the fundamental level. In one interesting passage in the 'Observations on a paper by Graslin', Turgot acknowledges that the interests of entrepreneurs and workers are opposed, since with respect to the distribution of the 'annual reproduction' the remuneration of one 'type of man' is at the expense of that the other 'type of man'.<sup>38</sup>

It must, [...], be admitted that the more the entrepreneur pays in wages to his carters, the more dearly he pays for the time of the reapers and other day labourers whom he employs, the more he lays out in costs, and that this outlay is always a deduction from the net product. What can be concluded from this? Is this not true in all systems? Is there any type of work in which profits are not diminished by the dearness of the labour? And is there any inhumanity in admitting a truth which only has to be expressed in words to become obvious? (Turgot 1767b:126)

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nature of class relations. Still, that does not alter the fact that the analysis of distribution of the physiocrats (cf.n.11 above) and Turgot (below in main text) in effect *unwittingly* brings the opposition between employers and wage-earners into focus. At the same time, while still in power Turgot actively supported attempts to refute Necker's work. Baudeau (1775) *Eclaircissements demandés à M. N.*, Condorcet (1775) *Du commerce des bleds. Pour servir à la réfutation de l'ouvrage sur la Législation et du commerce des grains* (1775), and Morellet (1775) *Analyse de l'ouvrage intitulé de la Législation et du Commerce des grains* all took up this challenge.

36 Cf. Morilhat (1988:159-60) who argues that Turgot favours the ideal of a labour market in which individual wage contracts are negotiated, and any workers' or employers' corporations disappear.

37 In this letter Turgot also uses the physiocratic argument (see above n.7) that real wages are normally at a minimum level at which they cannot support any increase in taxes: '[...] it has to be that the tax which does not directly bear on the landowner, falls either on the artisans [*salariés*] who live from the net product, or on those whose labour is paid from the share [of the annual product] of the farmer. If the wage was reduced by competition to its just price, then it has to rise; and, since it can only rise at the expense of those who pay it, one part [of the tax] falls upon the landowner through his expenditure of the net product; the other part raises the expenses of the farmers, who consequently can give less to the landowner. It is thus in all cases the landowner who pays' (Schelle 1913-23, II:662).

38 This admission follows upon the observation that there are 'two very different types of men who cooperate in quite different ways in the great work of the annual reproduction of wealth [namely] the agricultural entrepreneur [who] contributes to the reproduction through his advances; the man of toil [who] contributes through his labour, for which the agricultural entrepreneur pays him his wages' (Turgot 1767b:126).

Given this 'obvious truth' about the inverse relationship between wages and profits, it would appear that in order to increase their profits, entrepreneurs would attempt to reduce the level of wages as much as possible. However, according to Turgot this will not be the case for two reasons. First, 'in any kind of work, an ill-paid man who does not earn a plentiful livelihood by his work, works less well [...]' (*ibid.*). Second, Turgot argues, when wages are reduced this results in a decrease in the workers' money demand for agricultural goods. In turn, this will result in a fall in the prices of agricultural products, and a reduction in the farmers' income from the sale of those products. Therefore, '[...] if, when the cultivator pays his labourers less, he sells his grain for less, it is obvious that he is none the wealthier from this' (*ibid.*). This implies that it is not possible for farmers to increase their share in the total product in real terms, at the expense of that of the workers. Turgot stresses this point by insisting once more that

[...] there exists a natural proportion between the wealth produced, the revenue, and the wages, a proportion which establishes itself, and which causes that neither the entrepreneurs nor the proprietors have an interest in lowering the wages below this proportion (1767b:126.; cf n.32 above).

These arguments can be regarded as precise restatements of physiocratic positions. The same is true for Turgot's views on the content of the fundamental wage. Turgot's main improvement upon the treatment of most of the physiocrats on this issue is that he allows for the common existence of a degree of uncertainty in the workers' income.<sup>39</sup> To account for this, he develops the idea that the worker's wage can not at every single time be exactly proportioned to the cost of living of himself and his family, and that for this reason the fundamental price of labour will have to be a little above the subsistence level. In the *Reflections*, he argues that

[...] although the [entrepreneur] economises as much as possible in the payment of the wages, and competition obliges the working man to content himself with a price less than he would like, it is nevertheless certain that this competition has never been so numerous or keen enough in any kind of labour, to prevent, at any time, a man who is more expert, more active, and above all, more thrifty than others in his personal consumption, from earning a little more than was necessary for the subsistence of himself and his family, and from setting aside this surplus to create therewith a little store (Turgot 1766: 65).

The function of these small savings of workers is indicated by Turgot in the above mentioned letter to Hume. There he maintains that the fundamental wage not only has to cover the present cost of living, but that in addition

[...] the worker has to obtain a certain profit, in order to face accidents, in order to raise his family. In a nation where trade and industry are free and animated, competition reduces that profit to the lowest possible level (Schelle 1913-23, II:663).

Again in 1770, he notes that competition does not exactly reduce the wage to 'the essentials for

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39 The same keen interest in developing the theoretical implications of uncertainty for the issue of normal income distribution is relevant to Turgot's theory of profit. See below section 7.3.3.

avoiding starvation' but that the normal wage level allows the workers

[...] either to obtain some little luxuries, or, if they are thrifty, to create a little moveable fund which becomes their resort in unforeseen cases of sickness, or times of high prices, or unemployment [...] But it is of this type of *luxury* especially, that it can be said that it is *a most necessary thing*; it is essential that there is a little of it, just as it is necessary that there is *some play* in every machine (Turgot 1770b:168).

All this suggests that, according to Turgot, the 'profit' which wage-earners receive when being paid the fundamental wage, and which allows them to build up 'a little store', fulfils the particular function of guaranteeing them and their families subsistence even at times when their wage income does not cover their costs of living. He appears to develop this idea primarily to account for common uncertainties in the lives of wage-earners such as illness, the casual nature of employment,<sup>40</sup> and unforeseen rises in the costs of living.<sup>41</sup> In other words, this item does not so much lift the income of 'mere workmen' above the subsistence level. Instead it renders the 'fundamental' wage high enough to provide subsistence at all times and to raise a family.

The view that there has to be 'some play in every machine' highlights Turgot's opinion that the theory of wages should be seen in relation with the theory of the economic system as a whole. This is confirmed by his allusions to the existence of a 'natural proportion' or 'equilibrium' between several economic variables. Turgot argues that in a liberalised economy not only a more or less constant relation between the costs of subsistence goods and the money wage (or a relatively stable fundamental wage in real terms) would automatically establish itself. He also assumes that a balance would be brought about between '[...] the amount of work available, and the number of workers'. This latter opinion is related to his theory of population.

Again the affinity with the physiocratic doctrine is fairly obvious. Like Quesnay, Turgot is of the opinion that the total amount of wages and the employment available in the economy is limited by the annual agricultural production. For this reason, Turgot sometimes uses the term 'wages fund' (*fonds de salaires*), to refer to the agricultural output. He sees the spending out of the agricultural produce by farmers and landowners as the main determinant of the total number of jobs available (1766:45; 1770b: 177). The term 'wages fund' is deceptive insofar as it suggests a close

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40 'Doubtlessly there is no man who works as much as he could. But neither is it in the nature of things that men [should] work as much as they could, just like no string is stretched as far as it could be. There is a degree of relaxation necessary in every machine, without which it is in danger to break at any time' (Letter to Hume; Schelle II, 664).

41 'If by an unexpected decrease in wages or increase in expenses, the worker can put up with being reduced to strict essentials, the same causes which had forced wages to rise a little above the necessary of yesterday, continue to operate and cause them to rise once more until they attain a higher level, in the same proportion with the necessary of today' (Turgot 1770b:168).

resemblance to the wages fund theories of later post-classical economists like Nassau Senior.<sup>42</sup> While it can perhaps be said that in Turgot's theory the level of wages is established through the 'immediate principle' of the confrontation between the 'wages fund' ('offer') and the number of workers ('demand'), the more important notion is that of the 'fundamental wage'.<sup>43</sup> The existence of a minimum level 'below which [the wage] cannot fall' would appear to prevent the notion that the current price of labour could fall up to the point of 'full employment'.

If Turgot recognises a mechanism which would ensure that in a free market economy the whole working population would tend to be able to find sufficient employment, then it should be looked for in his theory of population. Indeed, like Quesnay, he suggests that when wages rise above the fundamental level, the working population will tend to grow, intensifying competition among workers, which eventually restores wages to the fundamental level.

A high exchange value of the produce of the soil and a large revenue enable the cultivator and the proprietor to pay wages to men who live by their manual labour. High wages, on the one hand enable wage earners to consume more, and to increase their well-being: on the other hand, this well-being and these high wages offered, encourage population; the fruitfulness of the earth attracts foreigners, multiplies the people; and the increase in people in turn lowers wages through competition, while the number maintains the consumption and its exchange value (1767b:126-7).

This and other passages suggest a population mechanism which assures the adaptation of the size of the working population to the capacity of the economy (more directly to the production of consumption goods) and at the same time a rather swift reduction of current wages to the fundamental level, through the mechanism of population growth. Both ideas need to be qualified.

With respect to the idea that in an expanding economy wages may rise above the fundamental level, Turgot argues quite specifically that this increase may be prolonged. The increase in wages '[...] is inevitable as long as the number of labourers does not increase in proportion to the

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42 Spengler (1942:288) argues that Turgot 'at times subscribed to a kind of wages-fund theory'. If that is the case one may as well ascribe a wages fund theory to Quesnay who asserts in one place in the 'Dialogue on the Work of Artisans': '[t]he more highly you pay [wage-earners of whatever kind, workers, manufacturers, artists, merchants, carriers, hired men etc.], the more each of them will be able to expand his consumption. But then there will be fewer wage-earners and fewer consumers competing with one another for the purchase of your products, *since the total quantity of wages is limited*. Thus the more highly you paid the wage-earners of the productive class, the less you would be able to pay to the sterile class; and for the same reason the more highly you paid the sterile class, the less you would be able to pay to the productive class' (1766c:229). The idea which Quesnay expresses here is that there is a definite limit to the employment of people at any given level of agricultural output, since it provides farmers and landowners with the 'means to pay wage-earners' and raw material inputs. This is exactly the sense in which Turgot uses the term 'wages fund'.

43 As we will see (section 6.5), Isnard's ideas are even more suggestive of a wages fund theory since he goes so far as proposing a formula for the determination of the current wage according to which it is simply obtained by dividing 'offer' by the 'number of workers'. However, even in his case the 'fundamental wage' is a more important notion.

new values put into the wages fund for distribution' (1770b:177).<sup>44</sup> He gives two reasons why the increase in the number of labourers will be rather slow. On the one hand, the natural growth of the population is a slow process

[...] this increase [in population], following the natural order, is much less speedy than that of production. The year after a field has been cleared, manured and sown, it returns the wherewithal to feed a man; but before a man is brought up, twenty years are necessary, and before these twenty years have passed, production would have had time to increase more and more if its progress were not hampered and restrained by the limits of consumption (*ibid.*).

On the other hand, the possibility that increased wages and employment opportunities will attract foreign workers is played down by Turgot: 'men are too strongly attached to their native country for this immigration ever to be too large' (*ibid.*).

These remarks suggest that in Turgot's opinion the current wages of workers may be above the fundamental level as long as the economy is growing, (an increase which will not be at the expense of profits or rent, since these are increasing too). What is more, while Turgot acknowledges that the expansion of the economy is limited by the capacity of agriculture to increase its production, he does not believe that the capacity of French agriculture is anywhere near its physical limits. For these reasons it can be argued that Turgot is quite optimistic about the capacity of a fully liberalised economy to assure a normal wage level which is a little above the basic subsistence needs of wage-earners.<sup>45</sup> However, it has to be noted that there is little indication in Turgot's writings that he believes that with the increasing affluence of society not only the current wages, but also the fundamental level of wages will be raised over time.<sup>46</sup>

A few remarks can be made with respect to the second implication of Turgot's theory of

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44 As an example of an occupation in which labourers are 'scarce relative to the wages offered', he refers to the fact that 'in the last few years, while the building trade has been brisk in Paris, masons have been given higher wages'.

45 This interpretation is quite common. See e.g. Spengler (1942:286-7), and Stirati (1994:42). It can indeed be said to be in keeping with Turgot's general belief in the possibility of continued human progress, as expressed in his early work. It also fits well with the views of some of his close friends like Condorcet and Morellet (see section 8.2) on the almost unlimited scope for future economic growth made possible by continued technical progress to support a large and affluent population. These latter views are not expressed by Turgot in so many words, though.

46 This interesting interpretation is given by Stirati in particular to Adam Smith's theory of wages (1994:50-70). Her argument is roughly that when market wages are for a prolonged period above the natural wage, which is the case during a period of sustained economic growth, then the natural wage itself, *i.e.*, the wage which is commonly accepted as the minimum income necessary for workers to cover their costs of living, is raised. In other words, people will develop new needs and habits if they are able to satisfy them for some time, and these new expenditures will become accepted as 'necessary'. The emphasis in this interpretation on socio-economic factors, rather than strictly physiological ones, as determinants of the necessary consumption of workers, can indeed be said to be in the spirit not only of Smith, but also Turgot. Still, it must be admitted that in the latter's case very little textual evidence can be found in support of this interpretation.

population, *i.e.*, the idea that in a liberalised economy 'full employment' would be achieved.<sup>47</sup> In the first place, it should be noted that it is hard to see how in Turgot's theory (like in that of the physiocrats) such a situation could be achieved in any other way than through the population mechanism. That is to say, given a certain output/employment level in the economy as a whole, and given a certain fundamental level below which wages can not fall, the situation in which every wage-earner will obtain sufficient employment will only come about if the 'number of workers' is proportioned to the available employment *previously*.

Second, the notion that the growth and decline in population will assure that the size of the working population is proportioned to the employment available in the economy is not only a rather crude mechanism. Its efficiency seems to be implicitly denied by Turgot when he stresses the time lag involved in this mechanism. Just like he does not presume that population growth will be instantaneous, he does not seem to presume that a decline in population will be very swift.<sup>48</sup> Indeed, his view that the wage tends to be reduced to the fundamental level through the intense competition among workers suggests the normal existence of considerable unemployment or underemployment.<sup>49</sup> However, this point is nowhere emphasised by Turgot. This may be explained by his ideological commitment to the system of 'natural' competition, which leads him to stress the 'natural proportion'

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47 Whether or not Turgot believes that 'full employment' would occur in a completely liberalised economy is contentious. Spengler (1942:283 n. 107) insists he does. According to Spengler, Turgot 'declared that an oversupply of *all* labor was impossible; that a *relative* oversupply could exist only in certain trades and would tend to disappear, given no obstacles to competition; that if a relative oversupply existed in some given profession, a proportional redistribution of this excess among all the professions would reestablish "equilibrium".' This interpretation is mainly based on two notes of Turgot to his translation of Tucker's *Questions importantes sur le commerce* (1755). It seems a rather sweeping conclusion, not only since this is quite an early text but especially because Turgot's observations about the proportions between various occupations are not very clear. In contrast, Stirati (1994:45) argues that in Turgot's theory no mechanism is postulated which would prevent persistent unemployment. Controversially, but quite convincingly, she argues that the possibility of persistent unemployment is a more general characteristic of classical economic theory and strongly differs in this respect from neoclassical economics. Unfortunately, she does not pay much attention to Turgot's demographic views (Stirati 1994:77-8).

48 As we saw above, he argues that if the wage falls below the fundamental level people will turn to begging and crime or will emigrate, rather than perish swiftly. The possibility that the size of the population will change appreciably through emigration does not seem to be taken too seriously by Turgot due to the 'attachment to the own country'. In 'Fondation' he suggests that '[...] however well administered a state was, it could free itself completely of poor and needy persons only if it had colonies to people' (Spengler 1942:290).

49 The existence of unemployment or underemployment is also suggested by Turgot's argument that an increase in employment does not necessarily lead to higher wages, but rather to an increase in the number of days that workers are hired. 'If this offer of jobs to the class of workmen of all sorts fails to raise the wages, this proves that there is a crowd of unemployed hands trying to get them [...] regardless of any rise in wages, we see an increase in well-being for the people; there is work where before there was none; those who before could find work and earn money only for two thirds or three quarters of the year can now find it every day; women and children can find work suited to their strength, that was formerly done by men. Hence the workman is better off and can consume more, extend his enjoyment and those of his family, eat better, dress better, bring up his children better' (Third Letter on the Grain Trade 1770; translation Stirati 1994: 40-1; in Schelle 1913-23, III, 320).

and 'equilibrium' which this system would bring about.

In the final analysis, one may be tempted to agree with Weulersse's conclusion (1910, II:558) that this ideal portrayal is an 'exaggerated, paradoxical and imprudent thesis'. At the same time, it has to be noted that Turgot certainly does not lose sight of the fact that the actual French economy of his time is far removed from the ideal situation he believes to be possible. In his capacity of *intendant* of the backward *généralité* of Limoges during the dearth of 1770, Turgot fully acknowledges that the lack of employment and income of large parts of the population may prevent effective provision even if the food market is liberalised.<sup>50</sup> He writes to his friend Dupont:

[Free] trade only supplies us with foodstuffs which are too expensive and the deep-rooted poverty of our people makes them unaffordable. In order that trade could completely prevent food shortages, it would have to be that the people were rich already and that the price of foodstuffs would not be much above [those in] the general market (Turgot to Dupont 29/3/1770; in Schelle 1913-23, III, 384).

Faced with this acute problem Turgot's response as the official in charge is neither to wait until people become 'rich' by themselves, nor to suspend the free trade in food.<sup>51</sup> Instead he takes a number of active measures, chief among them the provision of work to the poor with the aim of 'spreading money among the people',<sup>52</sup> and the granting of loans to merchants in order to encourage imports into the province. Thus Turgot stays largely faithful to his economic principles, while showing practical wisdom in trying to prevent a full scale famine.

#### 6.4. Morellet on wages

Morellet's writings on the theory of wages are extensive and rather diverse.<sup>53</sup> The most striking

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50 For a discussion of Turgot's measures to prevent a famine see Rothschild (1992).

51 In response to rumours in Paris, relayed to him by Dupont and Morellet that he has taken this measure, he assures Dupont categorically 'No, no! I will never be a cowardly deserter' (Letter of 4/5/1770 to Dupont; Schelle 1913-23, III, 386).

52 The provision of work to the needy poor, rather than the organisation of charitable food donations is in keeping with Turgot's earlier and later ideas on the matter. In his *Encyclopedie* article 'Fondation' (1756), Turgot argues that '[t]he poor have incontestable claims on the abundance of the rich; humanity and religion alike make it a duty to us to relieve our fellow-creatures when under misfortune'. However, this does not mean that the state should organise simple charity. 'What the State owes to all its members is the destruction of the obstacle which impede them in their industry, or which trouble them in the enjoyment of the product which is its recompense [...]'. Simple handouts of food are detrimental since '[t]o enable a large number of men to live gratuitously is to subsidize idleness and all the disorders which are its consequences. [Charity which renders condition of non-wage earners better than that of wage earners] diminishes for the State the sum of labour and of the production of the earth, a large part of which is thus left necessarily uncultivated. Hence frequent scarcities, the increase of misery, and depopulation' (Translations of these passages from Spengler 1942:287-8). Cf. note 31 above.

53 The following few pages do not pretend to offer a comprehensive examination of Morellet's views on this issue. A large amount of material is included in the manuscripts 2491 and 2492, other relevant notebooks appear in ms. 2509, 2511 and 2525. See also Di Rienzo (1994:449-69).



aspect about his contributions as a whole is a curious contrast between, on the one hand, the optimistic expectations he expresses about the lot of wage labourers in a growing economy which would result from the liberalisation of trade and the respect for private property, and on the other hand the grim descriptions of the situation of the lower classes in the actual state of society.

In his polemical writings against Galiani, Necker and Linguet<sup>54</sup>, Morellet proves himself a dogmatic defender of the private property rights of farmers and merchants. For example in his *Réfutation* of Galiani (written 1770, published 1774), he categorically states that

[...] any restriction, any limitation of the trade in grains and, even more so, any prohibition manifestly hurts that right in the person of farmers and landowners. Any breach of the freedom of trade of grains is thus destructive of the foundations of society (Morellet 1770:98).

The pre-eminent importance of the absolute respect for private property rights leads him to flatly deny the legitimacy of intervention in the foodmarkets on behalf of the poor.

[a]lthough only two million people are concerned with the production of grain and eighteen million eat it, this is no reason to decide that the superfluous grain of the two million cultivators ought to be regulated against their will; for this grain, although superfluous for them and necessary for their compatriots, is their property (Morellet 1770II:274; quoted in Gordon 1995:59).<sup>55</sup>

Morellet's insistence that the property of cultivators must be absolutely inviolable is undoubtedly related to his belief, shared with the physiocrats, that it is an essential precondition for the expansion of agricultural production. He adopts the opinion of the *economistes* with respect to the ultimate aim of political economy (cf. Weulersse 1910, II, 554).

It is not precisely the increase of population that one must have in view, it is the greatest quantity of

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54 Morellet defended Turgot's ministry against Linguet's attacks in *Théorie du Paradoxe* (Amsterdam 1775). The latter responded with *Théorie du libelle: ou l'Art de calomnier avec fruit, dialogue philosophique pour servir de supplément à la "Théorie du paradoxe"* (Amsterdam 1775). Morellet promptly replied with *Réponse sérieuse à M. L'', par l'auteur de la "Théorie du paradoxe"* (Amsterdam 1775).

55 On this point Morellet is in full agreement with the physiocrats; cf. note 15 above. In his *Apologie de l'abbé Galiani* (1771) Diderot comments on this passage by Morellet: 'This is the principle of a Tartar, a cannibal, and not of a polished man. Isn't the sentiment of humanity more sacred than property rights?' (*ibid.* 118; quoted in Gordon 1995:59). As this passage suggests the friendship between Morellet and Diderot suffered significantly from the controversy over Galiani's *Dialogues*. Morellet had known Diderot since about 1750 when the former was still studying at the Sorbonne (Morellet 1821:27-34). Appreciating his liberal religious views (see letter of D'Alembert to Voltaire 30/7/1758), Diderot asked him to contribute a number of articles on theological subjects to the *Encyclopédie*. Relations turned sour during the summer of 1769. Upon the publication of Morellet's *Prospectus*, Diderot still writes a positive review (cf. above ch.1 note 17; cf. letter 527 in Diderot 1963 vol.9,46). However by August, after the publication of Morellet's *Mémoire sur la situation actuelle de la compagnie des Indes*, he calls the former an 'ugly mercenary' (*ibid.* 120, letter 550), probably since he objects to the fact that the work is written at the request of d'Invault (*ibid.* 141, 145, letters 555,556). Morellet's next project, the refutation of Galiani only makes things worse. For a more detailed discussion of the controversy over Galiani's work see Kaplan (1976:590-613).

“ consumption goods [*jouissances*] combined with the greatest number of men. The best state of a nation is not that where the land would be covered with men eating bread and drinking water, and reduced to the most restricted subsistence (Morellet 1770:58).

In his manuscripts Morellet stresses the great potential for the improvement which may yet be obtained in agricultural productivity by the adoption of technically more superior and more capital intensive agricultural methods. If anything he is more optimistic than Quesnay and his closest followers about the extent to which economic growth is possible (see section 8.2).

Related to this is his rejection of the idea that the increase in the wealth of rich entrepreneurs and landowners is at the expense of the working poor. His most fundamental argument against Necker's *De la Législation et du Commerce des grains* (1775) is that it argues that the interests of employers and workers are opposed. Morellet comments:

One should disapprove of a work in which the seeds of this hidden war, of this blind aversion of the poor against the rich, of people without property against the proprietors are gathered and stirred up (Morellet 1775:18).

Morellet finds theories which may fuel this 'hidden war' between the classes alarming enough to criticise even Adam Smith in one of his manuscripts.

I am, I admit, astonished to find in Smith some ideas which can favour this idea of the detractors of property that the ownership of land<sup>56</sup> is a cause of the misery of the people (ms. 2509:83).

Morellet refers here to Smith's famous assertion in the *Wealth of Nations* ( I, chapter vi) that in the '[...] early and rude state of society which precedes both the accumulation of stock and the appropriation of land [...] the whole produce of labour belongs to the labourer [...]'. This assumption gives rise to the view that after the accumulation of capital in the hands of the owners of stock '[...] the whole produce does not always belong to the labourer. He must in most cases share it with the owner of the stock which employs him'. Similarly, '[a]s soon as the land of any country has all become private property, the landlords, like all other men, love to reap where they never sowed [...]' (Smith 1776, I,vi,47).

According to Morellet, these are dangerous ideas because they can easily be interpreted as saying that the establishment of private property in capital and land are a cause of the poverty of the mass of propertyless workers.<sup>57</sup> This view has to be opposed:

[...] among the causes which in a great and populous agricultural society reduce a considerable number of human creatures to, or near to, a miserable situation I do not at all see [private] property (ms. 2509:90).

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56 The words 'and the accumulation of capitals' which originally follow on this point have been deleted. For an explanation of this alteration see note 58 below.

57 It is exactly this reading which later for example the anarchist Thomas Hodgskin gives to these passages in the *Wealth of Nations*. See *Labour Defended Against the Claims of Capital* (1825).

The main reason why Smith is wrong to say that profit and rent are deductions from the produce of labour, is that the accumulation of capital is accompanied by an increase in the productivity of (agricultural) labour. Morellet argues

[t]he landowner can not separate himself from the cultivator [*i.e.*, they can not be different persons] until he or his predecessors have accumulated enough capital on the soil to render it susceptible to give a product which is sufficient to be shared between a cultivator and himself. How could the formation of capitals therefore be a cause of the fall in wages? (ms. 2509: 87).<sup>58</sup>

Following this argument neither the landowners' income, nor that of the owners of capital can said to infringe upon the wages of labourers.<sup>59</sup> The implication is that further accumulation and expansion of production will not necessarily cause a further impoverishment of the lower orders in

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58 It should be noted that Morellet argues in this manuscript that the emergence of private property in land is a *result* of the accumulation of capital. He remarks '[...] I do not see why Smith distinguishes the property of land and the formation of capital as two different causes of the fall in wages, because it is this latter [cause], the formation of capitals, which causes the separation of the proprietor from the cultivator' (ms. 2509:86). The idea that the property in land is established by the improvement of the productivity of land which results from the expenditure of capital (or *richesses foncières* are formed by the expenditure of *richesses mobilières*) is reminiscent of arguments put forward by physiocrats like Baudeau, Dupont and Le Trosne (see section 8.3.1). The same idea appears in Morellet's more developed text '*Traité de la propriété*', the pages 10-104 of manuscript 2508, which has been published by Di Rienzo (1990), with a good introduction. Morellet states that he develops Locke's theory of property. With respect to the property in land he argues that '[...] it is the application of the faculties of man to the soil, through advances and labour which establishes the real *occupation*, [it is] solely capable of founding an original property right in land [...]' (ms. 2508:57; Di Rienzo 1990:22). It is interesting to note that Morellet here appears to side with the physiocrats and to differ from Turgot. See below chapter 8 note 20. However, in ms.2525,P:10 he expresses an opposite opinion: '[...] it seems to us at first sight that the supposition of a labour from the part of the landowner in order to bring the soil in a state to yield a rent is unwarranted [*gratuite*]'.

59 Morellet also makes the conceptual point that '[...] before the property [in land] is established wages do not even exist since everybody works for himself and pays himself by his labour [...] and if one calls wage that what the proprietor who is still cultivator obtains with his own hands [then] that is the whole produce of his cultivation, either gross or net, which forms his salary and which is always rather modest in periods when agriculture has just emerged [...]' [Here] I call wage the portion of the product which remains in the hands of the cultivator [who uses the land of the proprietor], although that may not be the common acceptance of that word, but if one wants to reserve that term for the wage properly speaking of the worker without capital, who works on the capital of the one who employs him, [then] I still do not understand how Smith can say that the accumulation of capitals is a cause of the reduction in wages' (ms.2509:85,89). To be precise, what Morellet does not seem to understand is that Smith argues that after the appropriation of land and the accumulation of capital, wages do not any longer *command* the whole 'product of labour'. This is not the same as a reduction of wages. Morellet concentrates on the point that as long as someone expends labour on his own property one can not call his remuneration 'wage'. As soon as someone works on someone else's property this means that a product is generated which is larger than the wage of the person performing the labour. The part which is handed over to the owner of the land or the capital is thus not a deduction from the wage. This criticism of Smith is interesting to compare to the view of Hollander (1987:74-7). He argues that it is incorrect to attribute the view to Smith that profit and rent are deductions from the product of labour. Morellet certainly believes that that is what Smith says. Morellet's criticism of Smith does not necessarily mean that he believes that land and capital have identifiable 'own' products. He appears to argue that capital accumulation makes agricultural labour more productive.

society.<sup>60</sup> These are to a large extent apologetic arguments, primarily concerned with the defense of private property. However they are relevant to the theory of wages in the sense that they indicate that Morellet does not believe that the low level of wages is a 'necessary' condition of 'capitalist' society.<sup>61</sup>

However, it is intriguing to find that in other places in his manuscripts Morellet freely acknowledges that in the actual state of society the level of wages of the lowest orders of workers is scarcely sufficient for survival. This point informs his discussion of the notion of the 'fundamental price' of labour. He argues that the fundamental price of labour consists of that what is 'rigorously necessary' to the bare survival of the worker. As such it must be considered as an invariable lower limit below which wages can not fall.<sup>62</sup> Interestingly enough, he compares this meaning of the term

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60 Indeed, Morellet also argues against Smith's theory that societies will eventually reach a stationary or even declining stage with the progression of the accumulation of capital, resulting in a fall in natural wages. See section 8.2 note 12.

61 It is interesting to note that in ms. 2492, 155-7 (Di Rienzo 1994:453-4) Morellet also rejects the existence of an 'iron law of wages'. Such a law '[...]' supposes that the population always augments in the same proportion as the quantity of subsistence goods, since that is necessary [when it is argued that when] subsistence goods increase with the progress of agriculture and wealth, the last class of citizens, the wage-earners, will remain equally miserable precisely because they become equally more numerous. But this supposition is wrong and I believe that I can say that it is abandoned [*égaré*] by the majority of authors who have dealt with public economy in the discussion of the greatest question [...] The earth still by no means [*est bien éloigné encore*] produces all the wealth which it could supply to the subsistence and enjoyment of man. One can say that there is a state of cultivation possible, which is as much above the best actual cultivation as the latter is above the worst [actual state of cultivation]. Now, this latter difference is perhaps 10 or 20 to 1, and I do not think that one can actually doubt that with good laws the mass of annually renaissant wealth on the land could not be increased tenfold and beyond of what it is today [...]'. Here Morellet implies that under these conditions, agricultural production may grow so fast that it will not be outstripped by the growth in population. Unfortunately, it is not clear when exactly this passage is written, but it is possible that Morellet changes his views on this point later in life under influence of Malthus' work. This is claimed by Spengler (1942:202) but his reference to Morellet's *Mémoires* II, 155-7 is incorrect.

62 The notion of fundamental wage is discussed in detail in ms. 2525, notebook R: 7-9. Here Morellet defined the fundamental level as that what is physiologically necessary for the survival of workers: '[...] in a general sense a day's labour is worth what it costs [*vaut ce qu'elle coûte*], but sometimes it costs only what is necessary for the subsistence of the one who works, and sometimes more than what is rigorously necessary for subsistence. That subsistence consists in the last instance always of foodstuffs. Thus a day of the same type of work and of the same man can cost more or less foodstuffs from one period to another and from one country to another. If the day's labour is only paid for by what is rigorously necessary to the subsistence of the worker, since it is rigorously necessary that the worker subsists in order that he can work, that value of the day[']s labour] would appear necessarily constant [and] invariable. One can call that value of labour fundamental in relation to that [value] which that same labour can have if the subsistence of the worker is extended and augmented. Because that augmentation of subsistence of the worker may be indefinite and unlimited, for example a painter can be paid for a painting a hundred or a thousand times the quantity of foodstuffs which would he would rigorously need during the time of his work. That value of his labour becomes changeable and variable, in contrast to the value founded uniquely on the quantity of foodstuffs rigorously necessary to the subsistence of the worker. If labour can have a value which can be called intrinsic and fundamental [then] it doubtlessly is the latter, since it is not possible to lower the price of labour below the subsistence necessary to the worker, but it has to be noted that in order that the value of labour is fixed in that manner, one has to take that term 'necessary' rigorously. It has to be that it only comprises the housing and clothing which is necessary in order that the worker does not perish from the affections of the seasons [, and] the food necessary in order

fundamental wage to the views on the normal level of wages of both Cantillon and Smith. He examines Cantillon's attempt to express the normal level of wages in terms of the quantity of foodstuffs required by the worker and his family, and to express the latter quantity in terms of the quantity of land required for its production.<sup>63</sup> In a notebook entitled 'Of the limit below which the wage can not fall' (ms. 2491:146-54), the view of both Cantillon and Smith is criticised that the lower limit of wages is that at which a worker can raise a family. Morellet writes:

I do not know if in the actual state of societies it is true to say that the workers of the lowest class have the means to live and raise a family. At first sight one sees that the largest part of the wage-earners of that class live and die celibate, and doubtlessly they would not refuse the wish of nature in that manner, if it were not impossible for them to maintain a wife and to raise their children. Almost all soldiers, all domestic servant and lackeys [and] the larger part of workers of large manufactures etc. [are celibate]. It is even [the case that] the celibacy of the larger part of workers of that kind is one of the most powerful causes of the reduction of wages because since they have no family they contend themselves with a wage which suffices to them alone and that even those who are married are forced to accept that same level which according to the supposition [of Cantillon and Smith] would not suffice to a wage-earner with a family who has to raise children. [...] Even when the wage-earners of that order have a family, it is not true that they maintain it with their salaries [:] 1° because those families are soon destroyed, [since] bad food and diseases carry off almost all children at a low age. 2° because it is precisely there [*i.e.*, in the lowest classes] where the fertile breeding-ground is of poor men and beggars which multiply themselves so strangely in almost all states of Europe. One can not say that the wages suffice to the wage-earner to maintain his family when his family lives from charity and only supplies beggars to society. In the states of Europe, wages thus fall well below the limit which mr. Cantillon and mr. Smith assign to them. One says that if the wage of those men does not suffice anymore to maintain a family, their race will extinguish and that there will not be enough men of that kind. Which is not the case, since the same works continue to be executed at the same price. But I respond that their race does indeed extinguish and that if there is no lack of men to continue the execution of the same works, it is because from the superior classes, where the wages are a little better, [workers] descend and fill the void which misery causes and which is left by celibacy (ms. 2491:151 and 153-4).

The main reason why Morellet in this passages seeks to qualify the notions of the normal level of wages (not only the ideas of the 'intrinsic' value of labour in Cantillon and of the 'natural' wage in Smith, but implicitly also Turgot's notion of the 'fundamental' price of labour) seems to be an empirical one. Morellet points out that it has to be admitted that in many countries in Europe a large number of the poorest members of society are not capable of raising a family because their wages are too low. There is thus according to Morellet a significant difference between the physiological subsistence minimum, and the 'natural' level of wages at which workers are able to reproduce

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that his body can support the labour. It is unfortunately true that in many of the most polished countries of Europe there is a numerous class of people of whom the work is only paid by that strictly necessary subsistence. Thus the fundamental value of an equal labour corresponds to [*se confond avec*] the value which is paid in the market and in that sense the work of a day labourer [and] of a poor peasant *only costs what it is worth*'.

63 Ms. 2525,R: 10-16. These pages contain excerpts of chapter xi of part I of Cantillon's *Essai*. Morellet remarks that Cantillon is '[...] the only modern economic writer who has felt the need to give precise notions of the value of labour in terms of foodstuffs and of foodstuffs in terms of labour' (*ibid.* 10). However, he shows himself rather critical of Cantillon's attempt to find a par between the value of labour and amount of land necessary to grow subsistence goods, since the productivity of various kinds of land is too variable. '[T]hus this quantity of land which is here the rule of the value of labour is neither constant nor determined. Therefore the expression 'that what is necessary to maintain a peasant' is equivocal' (Morellet ms. 2525,R:13).

themselves.

Other surprising passages in his manuscripts concern discussions of the inequality in the bargaining power between employers and workers, and the fact that the creation of large commercial farms contributes to the increase in the number of beggars.<sup>64</sup> It is quite difficult to interpret these passages. For one thing, since they are contained in Morellet's unpublished papers, it seems possible at times that he is merely repeating the opinions of other writers with whom he does not necessarily agree. What is more, Morellet's various opinions do not seem to converge towards a clear theory of wages. All in all his ideas on the issue appear to be most significant as commentaries on the views of other writers.

## 6.5. Isnard on wages

Isnard attempts to give a strict algebraic treatment to the theory of wages. This lends a rather mechanical character to his theory. Many of the more or less specific arguments which the physiocrats, Turgot or Morellet develop to explain the principles which rule the 'value of labour', are sacrificed by Isnard in an attempt to treat 'labour' in a strictly analogous manner to other commodities.<sup>65</sup> In a way which is somewhat reminiscent of Turgot, Isnard maintains that, like other commodities, labour has a minimum price, namely 'the quantity of products necessary to their [*i.e.*, the workers'] subsistence'. Beside this minimum price, labour has a market price which is determined by the ratio between the 'offer' of work and number of available workers. Against the physiocrats, Isnard argues that the market level of wages can not generally be assumed to be at the minimum level. It is indeed possible, Isnard admits, that the workers only earn the minimum necessary income

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64 Morellet discusses the following cause of the increase in the number of beggars: '[...] with the passage of time the number of people without property increases continuously relative to that of owners, and the inequality in wealth is the result of that cause. Not enough attention is paid to the rapid increase in begging on the one hand, and the no less rapid or rather simultaneous increase in the whole of Europe in the size of [landed] properties. The simultaneous occurrence of those two facts is by itself enough to show that the one is the effect of the other. The destruction of small farms and small properties in the provinces of France which are nowadays the most miserable has started from the end of the last century and the evil of begging has started to become more noticeable since then. The great possessions have increased in England, and the number of needs of the poor at the same time'. In ms. 2491 (Di Rienzo 1994:466) he estimates that 'in any nation the mass of the people, 9/10 th perhaps of the citizens, have nothing to offer than their labour, and have not got any foodstuffs to sell' (ms. 2546:10; Di Rienzo 1994:468 n.79).

65 Isnard explicitly states this aim of treating 'labour' as a commodity whose value is determined by the same principles as any commodity: 'The works, services, or functions of men are capable of being exchanged against each other, or against any commodity or product, like one exchanges commodities or products against commodities or products. The useful qualities which are produced by the labour of men are exchanged against things or useful qualities produced by nature, or by some machine. The value of labour therefore follows the same laws as [the value of] commodities; [...]' (I,29). For a discussion of the ambiguity of the term 'labour' ('labour time' or 'the product of labour') and consequently of the 'value of labour', or wage, see chapter 5.

'[...] in the case that the number of workers is such that the price of labour is equal to the price of the subsistence of the workers during the labour period' (1781,I,39). However, this does not necessarily happen. It is possible that '[...] the value of labour surpasses the value necessary to the existence of the workers' (I,39). In that case workers must be considered as sharing in the disposable product of society: 'If the value of work is such that the workers get a greater value than that of necessary [consumption], [then] the surplus is disposable'(I,38-9).

Isnard thus seems to reject the physiocratic argument that wages generally tend to be at the minimum subsistence level due to the 'extreme competition' among wage-earners.<sup>66</sup> At the same time, even more clearly than the physiocrats, he maintains that the question whether or not workers receive wages above the subsistence level is exclusively a matter of the relation between the number of workers available and the demand (*offres*) for their work. He ignores the possibility that wages are determined by custom, or that they are kept low through the favourable bargaining position of employers in the labour market. 'The proprietor determines a day's work as little, and has not more power over its price, as he determines the prices of any commodity, and has power over those prices' (I, 29-30).

Instead Isnard argues that the level of wages is determined by impersonal market forces.<sup>67</sup> He gives the following formal description of the mechanism which determines the market level of wages.

[...] the value of homogeneous labours, or of homogeneous qualities produced by labour, will be equal to the sum of offers [for it] divided by the quantity of those works. One specifically estimates the labour of workers, during a certain time, by the work which they can do during that time. The value of the labour of a man, during a certain time, is equal to the sum of offers divided by the number of workers, supposing that the training and skill of the workers are the same, and their work is homogenous (I,29).

The reference to 'homogeneous labours' may mean one of two things. Either Isnard proposes to treat all labour as one (unskilled) type of commodity, or he assumes that in every occupation the market level of wages is determined separately by the 'demand' (*offres*) and 'supply' (number of workers) of a specific type of labour. If he has the latter in mind, he does not discuss the existence of wage differentials between different occupations.

Isnard's assumption that the price and quantity of 'labour' is ruled by the same principles

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<sup>66</sup> The main reason why Isnard opposes this view is that it is used as an argument in favour of the doctrine of the 'sterility' of industry (in value terms). See section 3.5.

<sup>67</sup> It has to be noted that Isnard claims to describe the same kind of market economy as the physiocrats, based upon a absolute respect for private property. '[...] the law of property is a fundamental law of society [...] Whatever the force of the needs of men, it are only the disabled, old or infirm beggars who may have rights to the property of rich citizens, by rousing their commiseration. Those rights have no other source than charity and commiseration; the needs are thus subordinated to the rights of property' (Isnard I:6,8). In other words, the 'needs' of able bodied poor are to be satisfied through the sale of their 'labour'.

as any reproducible commodity is emphasised by the fact that he applies the observations he makes in a general section entitled 'Of the quantity of things or of commodities' in the subsection 'Of the quantity of workers'. According to Isnard, in general

[t]he value of a commodity is equal to the sum of the offers [for it] divided by [its own] quantity, and the total quantity of a commodity is equal to the sum of offers. Let  $B$  be the sum of offers,  $a$  the quantity of a commodity, let  $F$  be the [necessary] cost of each [item], and  $P$  the disposable part which is obtained by all owners. One will have  $P = B - aF$ . Therefore the disposable product is equal to zero when  $B = aF$ , or when  $a = B/F$  (I,43).

Isnard believes that these principles can be applied to the value of labour and the number of workers in the economy. One can therefore say that:

1. The number of workers can grow until it becomes equal to the sum of offers divided by that what is necessary to the existence of each [worker], or at least to the existence and the subsistence of each during the time of uninterrupted work, or interrupted only by the necessary breaks.

2. Every time that the number of workers, during a given period, will be equal to the sum of offers divided by that which is necessary to the maintenance of each [worker] during that period, the value of their labour will be equal to that maintenance, and the worker will be reduced to necessary [consumption] (I,45).<sup>68</sup>

In other words, whether or not the market level of wages falls to the fundamental level, or 'the value necessary to the existence of the workers' (I, 39), depends on the number of workers available. When the number of workers ( $a$ ) relative to the 'offers' for labour ( $B$ ) is such that  $B/a$  equals the fundamental wage ( $F$ ), then market wages are reduced to the minimum necessary level, and the workers will not share in the disposable product of society.

If anything, these formal remarks show that Isnard's theory of wages is rather limited. He shows very little appreciation for the fact that 'labour' may not so easily be dealt with in the same manner as any reproducible commodity. For instance, in remark 1. above he specifies that the wage can fall to the level which assures subsistence for workers '[...] during the time of uninterrupted work, or interrupted only by the necessary breaks'.<sup>69</sup> This seems a curious qualification since it begs

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68 The first thesis is meant as a corollary to general consequence number 1 (I,44) that '[...] the limits to the increase of quantities of commodities will be the sum of the offers given to the owners divided by the costs necessary to their [*i.e.*, the commodities'] existence'. The second thesis is meant as a corollary of general consequence number 2 that 'When the quantity of some type of commodity is equal to the sum of offers divided by the costs, the disposable product is equal to zero' (I,44).

69 On the same page Isnard includes the following note: 'Breaks, or any forced interruptions, are complications to activities within a same time. These interruptions or rests increase the necessary [costs] to the existence of the workers during the working time' (Isnard 1781,I:45). This only makes some sense if the 'workers' are self-employed artisans, that is if they have to earn their living by selling the products of the labour in which case interruptions are costly *to them*. This reading is confirmed by the passage to which the note is added: 'If labour is made easier, that is to say, if less labour is required to produce the same thing [then] either the sum of offers will remain the same, and then the disposable portion of the workers will increase, and all will profit from it, or the sum of offers will fall, and the decrease will be offered to other labours and to other enjoyments, then the workers will share with the consumers the increase in disposable wealth, or the products of labour will increase until the workers are reduced to the necessary' (I, 45-6). Here Isnard assumes that the 'workers' profit from a decrease in production costs, as long as the selling price does not fall as much as the



the question how workers are supposed to subsist outside working hours. The reason why Isnard ignores this question seems to be that he is too concerned with treating labour analogous to other commodities (which indeed do not need continuous nourishment, like humans).

Another consequence of Isnard's all too formal treatment of labour as a reproducible commodity is that his theory of wages is rather directly related to his discussion of the theory of population. He argues that 'the facility of the multiplication of workers' has an important bearing on the question whether wages are above the subsistence level.<sup>70</sup> The theory of population, or of 'the production of people' (I, 80), is dealt with in a separate section entitled 'Of the relation between expenditure and the population' (I, 80-89). Some ideas expressed in this section are reminiscent of the physiocrats. He opposes the 'populationist' idea that the greatest power and wealth of a country lies in the stimulation of a maximal population.<sup>71</sup> 'It is a political error to say that a kingdom should have a population which the terrain or the production of subsistence goods allows', partly because the achievement of this goal would require the adoption of 'principles contrary to the laws of property', and partly because the goal itself is not desirable. Instead he confirms the physiocratic view that '[t]he greatest, most comfortable and richest population must be the aim of production' (I, 82).<sup>72</sup>

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former. The distribution of the increased disposable product is not contested between workers and employers but between artisans and consumers. Again, it shows how Isnard's theory of 'wages' is ambiguous because he does not clearly define the 'labour relations' which he assumes. See chapter 5.

70 'It is possible that because of the facility of the multiplication of workers or servants, they will only be paid for the exchange of the product of their work, the quantity of products necessary to their subsistence during the period of their work' (I, 38). To this remark the following note is added: 'When the facility of the multiplication of things is such that one would not have to increase the offers to obtain the preference, [then] those offers will be the least possible, they only exist of the least necessary to their existence' (I, 38 note *e*). Cf (I, 44): 'If the facility of the multiplication of a thing is such that one would not have to increase the offers to obtain the preference, [then] the offers will be the least possible, and that *minimum* will be [no more than what is] necessary to the existence of this thing'. In other words, people can simply be considered as a particular kind of reproducible goods. If they are very easily multiplied, then the price of their labour will be reduced to the minimum costs of reproduction. This extremely dispassionate view can perhaps best be put down to a (misplaced) drive of the engineer Isnard to give a rigorous treatment to his subject.

71 It is curious that Hecht (1994:72), being otherwise one of the most well-informed commentators, considers Isnard to be one of the 'last representatives of the classical populationist mercantilism'. Isnard persistently opposes mercantilist policies in general and populationist aims in particular. See e.g. I, 89: 'Colbert and his disciples place constraints on the increase of the wealth of the farmer; they take from him a part of the product of his advances and his toils in order to favour the population of their manufactures. Poor legislators who want to assist nature ! ingenuous blind men who I respect and who I pity, do not deny to men the light which is robbed from you; do not try to find the means to produce men, when nature has done more than your imagination can do'. This can hardly be taken as an endorsement of mercantilist population policies. See also II: 23: '[...] the population considered relatively to productive labour is *only a means* of public wealth [...]. Also cf. Spengler (1942:303-4).

72 'Since man puts in motion the natural agents [necessary] for the production of wealth in agriculture and industry, the production of people, or the population, is without a doubt an essential part of the production of wealth: but [...] there will be no work without wealth, because it is necessary that the needs of the people are satisfied so that they are capable of working. One should therefore not make laws in favour of population

Also consistent with the physiocratic doctrine is Isnard's view that the physical limits to the growth of agricultural production are by no means in sight. The growth of the food supply sets the limits to 'production of people',<sup>73</sup> and the former depends primarily on the availability of agricultural capital, not on physical constraints.

Nature has assigned no limits to the multiplication of people but by the production of subsistence goods [...] the farmer only requires wealth to produce subsistence goods in order to have people born (I,88-9).<sup>74</sup>

According to Isnard, there exists a natural relation between the size of production and of the population of a country. This should not be altered by government intervention, for example by stimulating labour intensive sectors (I,83), or by protecting national industries by imposing restrictions to imports (II, 23-4). Instead, population growth should be seen as a natural result of favourable economic circumstances:

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[growth] at the expense of production, just as little as one should make laws in favour of production at the expense of the population. [...] it is not the task of the legislature to fix the relation between [population and production]. One of the fundamental principles of political economy is to reduce costs relative to the reproduction: yet the total of the calculations of each interested [party] in the reproduction is a more certain result than the calculations of the administrator. [Some people say that one should support one particular productive activity because it employs, and thereby provides subsistence to, many people.] These quibblers put the cart before the horse; they mistake costs for consumption. The goal of the activities of agriculture, industry, and trade is to permanently supply consumption goods [*jouissances*]; the general aim of producers is to supply consumption goods at the least possible costs. If in an enterprise two horses produce more than ten men, the producer will choose the horses as agents of his production. If in a workshop a wheel, a lever, a windlass, or any machine substitutes the work of twenty men and costs less to maintain, [then] the producer will employ this machine and will dismiss the twenty workers. The general laws have to be the result of these particular principles. The laws which favour the reduction of costs relative to the increase of consumption goods are the laws which are most favourable to the population. It is thus not the population which has to be protected against [improvements in] production, but it is [improvements in] production which has to be protected to have a population which is well-to-do, rich, powerful and happy. The goal of production must be the largest, most comfortable, and richest population [possible]' (I, 80-2). Three points can be made with respect to this passage. First, Isnard adopts here the same anti-populationist views as the physiocrats. He even uses the same expression as Mirabeau (*mettre la charrue devant les boeufs* see note 20) to expose the faulty reasoning of people who argue that the creation of employment should be the aim of the stimulation of economic activities, like manufacture. Instead economic production is best stimulated by leaving it alone, and employment will automatically result from increased productive activity. Second, he employs an argument with respect to machinery which can also be found in Quesnay. As a general rule, the aim of producers is always to reduce costs relative to the total product. If it is cheaper to replace labour by mechanical aids or animals then this should be done (Isnard develops his views on machinery further on the pages 171-4, and 204). Third, note that Isnard here assumes a distinction between the entrepreneur and the workers. This in contrast to page 45-6, where he assumes that reductions in the costs of production are beneficial to 'workers'. Cf. note 69 above.

73 In this context, Isnard even acknowledges that '[i]t is evident that agriculture is the source of all wealth; one has to subsist before one can enjoy oneself and work; there are only artisans in society insofar as the production of subsistence goods exceeds the necessary [consumption] of the producers, and the artisans multiply themselves relative to the increase of this difference' (I,52). Cf. section 3.5 above.

74 There is only the faintest hint at the existence of diminishing returns in agriculture (see section 7.4.2). Generally, Isnard does not argue that the considerable amount of land that remains to be cleared is of a poorer quality than what is in use. Neither does he betray an awareness of the principle of diminishing intensive returns (see section 8.2).

Man does not lack the courage [to procreation] when he has the means; [...] happy couples which are raised by affluence above solicitude, the worries of misery and poverty have courage, and the population grows quickly in the bosom of wealth (I,80).

In particular, greater affluence will increase nuptiality, and the number of children reaching adulthood (I, 86).<sup>75</sup> In order to illustrate that 'it is not human fertility which lacks to the increase in population', Isnard refers to two examples of Euler illustrating the exponential growth potential of the population.<sup>76</sup> Using the latter's result that the annual rate of growth only has to be 1/144 to double the size of the population in a century, Isnard states that the French population which he estimates at 24 million in 1781 could be 48 million within one century. He argues that this modest rate of growth could be sustained by the expansion of agricultural production (I, 84).

Perhaps he even implies that economic growth could outstrip population growth. He is unclear on this point. In any case he does not draw the Malthusian conclusion that any improvement in the living conditions of the common people will lead to procreation and a decline in the standard of living. There are two likely reasons why he does not draw this conclusion. In the first place, if Isnard would admit that it is generally the case that '[...] facility of the multiplication of workers or servants' is such that 'they will only be paid [...] the quantity of products necessary to their subsistence' (I,38), then he would concede the point to the physiocrats that workers do not normally share in the surplus.<sup>77</sup> Second, Isnard shares the optimism of the *economistes* that a liberalised and well ordered economy is not only able to support a larger population, but also a population which is generally 'comfortable and rich'.

It can thus be said that Isnard's discussion of the theory of population to some extent seems

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75 With respect to the increase in the number of children as a result of the improvement in economic conditions, Isnard makes the important point that not only the birth rate increases but also the survival rate: 'many philosophers have observed that half of the human species dies before the age of eight. If the people were more affluent, the children would be better cared for, and fewer would perish before that time' (I,85 note y).

76 'A famous man has calculated the speed with which the population could grow in little time. Only wealth and subsistence goods lack in order that these calculations can be realised. Supposing that there are in a country one hundred thousand people, and that its population grows each year by one thirtieth, and making the same calculations as that author, one would find that after 50 years the population would be more than 515,000 people, after 100 years more than 2,650,000 people, [and] after 200 years more than 70,490,000' (1781,I, 84). In footnote x on the same page Isnard indicates that he is referring to Euler's work *Introductio in analysin infinitorum*. The specific calculation he refers to can be found in volume I, chapter VI, on page 85-6 (example II) of the English translation of Euler (1988). Euler explains that after one year the population will be  $(1+1/30) 100,000 = (31/30) 100,000$ ; after two years it will equal  $(31/30)^2 100,000$ ; and after 100 years  $(31/30)^{100} 100,000$ . He calculates the logarithm of this population, which is 6.4240439. Finally he states that the corresponding population is 2,654,874. For his assertion that in order that the population doubles in one century the annual growth rate only has to be 1/144, Isnard simply relies on the result which Euler derives only a little further down in example IV (*ibid.* 86-7).

77 As we saw in section 6.2 Mercier de la Rivière explicitly uses the 'facility of the multiplication of workers' as an argument for the position that wages are normally at a minimum level. However, this does not appear to be a frequently used argument.

to contradict his theory of wages. If the 'multiplication of workers' would indeed mechanically follow the occurrence of above-subsistence wages, then the conclusion would have to be that workers do not tend to share in the surplus.<sup>78</sup> Generally, the conclusion must be the same as in the case of the physiocrats that he does not develop any 'iron law' according to which the theory of wages is a mere corollary of the theory of population. Isnard's peculiar attempt at a more rigorous treatment of both theories only brings out this point more clearly.

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<sup>78</sup> Isnard does not utilise the more sophisticated argument advanced by Turgot, that the increase in the working population takes considerable time, during which the economy continues to grow, so that wages can remain above the subsistence level for a prolonged period.

### 7.1. Introduction

In 1793 Roederer calls '[...] M. Turgot, the true author of the theory of capital' (Delmas and Demals 1990:130). Seventy years later, an opposite opinion with respect to the origin of the theory of capital, is expressed by Karl Marx:

The analysis of capital, within the bourgeois horizon, is essentially the work of the physiocrats. It is this service that makes them the true fathers of modern political economy (Marx TSV I:44).

This difference of view, which seems to persist to some extent among modern commentators,<sup>1</sup> is relevant to the content of this chapter, the purpose of which is to describe how Quesnay's theory of capital is elaborated and modified in the works of the writers under consideration. To a large extent the question whether Quesnay or Turgot (or any other writer) is the 'true author of the theory of capital' depends on how the subject matter of this theory is defined.

Here the simple definition of "the analysis of the use of priorly produced commodities as advances in the production of other commodities" will be used.<sup>2</sup> Understood in this manner,

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1 Marx' opinion is endorsed for example by Schumpeter (1954:235) and Meek (1962:297-8), but is qualified by Vaggi (1987:171) and Aspromourgos (1996:160).

2 It is worth noting that it is in the 1760s that the word 'capital' starts first being used by French economic writers in the sense of 'produced means of production'. Arguably the clearest definition of the term 'capital' of the period is given by Morellet in manuscript 2523:122. He writes '[...] a capital is by force of the word a value which is employed usefully, which regenerates and maintains itself and regenerates moreover a profit or interest'. (See below section 7.3.1. As we saw in section 3.4 he also describes capital rather aptly as a *produit reproductif*). Historically the term 'capital' had been used in the narrow sense of 'sum of money' or 'money-capital' since as early as the 13th century (see Palmade (1972:32-5), Braudel (1982:232-7), Hennings (1987:111-12)). Whenever Cantillon or Quesnay use the word 'capital' it is almost always still in the older narrow sense. See e.g. Cantillon (1755:202), Quesnay (1766a:763). To denote the goods used in enterprises Cantillon uses the term '*fonds*' (1755:200,202,204,216,218). The generic terms which Quesnay uses most commonly to refer to the things entering into the production of other commodities are 'advances' (*avances*), 'returns' (*reprises*), 'funds' (*fonds*), or 'renaissant wealth' (*richesses renaissantes*). An exception can be found in *Philosophie Rurale*, where Quesnay, explaining interest payments in the *Tableau*, states '[...] *qu'elle gratifie encore le cultivateur des intérêts au 10% du capital de ses avances annuelles et de ses avances primitives*' (INED II, 691). In the work of the younger physiocrats, Dupont (1768: 391) and Le Trosne (1777b:929) 'capital' appears a few times in the wider sense of 'means of production'. However, it is only in Turgot's *Reflections* that the term is more generally, and probably purposefully, used in this sense. Isnard uses the term *capitaux* most commonly to refer to capitals held in money form. However, the term *capitaux productives* is also used to refer to the actual things used in production (cf. below section 7.4.1). The historical fact that the term 'capital' was originally almost exclusively used to indicate money-capital appears to be relevant for theoretical reasons in Turgot's work, since this writer ascribes particular importance to the relation between the return on money-capital and capitals held in another form. According to Turgot '[...] it is perfectly the same whether [a] sum of value, or [a] capital consists of a mass of metal, or of any other matter, since money represents every kind of value, just as every kind of money represents value' (Turgot 1977:69). In a word, Turgot sees money-capital so to say as the 'general form' of capital (see below section 7.3.2).

Quesnay must indeed be considered as an important contributor to the theory of capital, if only because he develops a formal representation of the economy as a reproductive system in the *Tableau économique* (cf. section 3.2 above). However, an idea which Quesnay hardly develops is that a particular kind of income, *i.e.*, profit, is related to the making of advances. If this notion is seen as an essential aspect of the theory of capital, then Quesnay's contribution may be deemed less important. The notion of profit as a return on capital advanced is developed by Turgot and Isnard. It gives rise to the theoretically significant proposition that there exists in a capitalistic economy a competitive tendency towards a uniform rate of return on capitals invested in alternative activities.<sup>3</sup>

In this rather long chapter it will be argued that Turgot and Isnard attempt to incorporate the novel idea of the returns on and movements of capitals into Quesnay's perception of the economy as a reproductive, surplus producing system. The manner in and extent to which they achieve this will be examined in detail. This chapter has the following structure. The first two sections deal with the most important elements of Quesnay's theory of capital. In section 7.2.1 the concepts of the farmers' *avances annuelles* and *avances primitives* will be briefly examined. Quesnay's failure to develop a theory of an income share associated with such advances, and the alternative 'physiocratic theory of profit' which Vaggi presents, is discussed in section 7.2.2. Turgot's theory of capital is discussed in the next four sections. In section 7.3.1 Turgot's general concept of capital, the *richesses mobilières*, is examined, while section 7.3.2 considers the special function which money-capital has in Turgot's theory. His famous theory of the movement of capitals between alternative employments, and the associated proposition of a tendency towards a uniform rate of return on capital advanced, is the subject of section 7.3.3. Sections 7.3.4 and 7.3.5 discuss two problems with Turgot's theories of profit and interest. In section 7.3.6 the theories of Quesnay and Turgot are contrasted. This provides a good background for the discussion of Isnard's theory of capital in section 7.4.

## 7.2 Quesnay

### 7.2.1. Concepts of capital in Quesnay

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<sup>3</sup> Perhaps it should be stressed that here only the *theoretical* significance of the notion of profit as a normal return on capital advanced is considered. It is a rather different question whether there is strong empirical proof for the proposition that since owners of capitals are interested in receiving a return proportional to the capital they advance, they will try to obtain the best return possible through a systematic comparison between different investment opportunities. The question whether there actually existed an observable tendency towards a uniform rate of profit in the north-west of Europe during the third quarter of the 18th century (when the *idea* was conceived), far exceeds the scope of this work. However, the significance of the proposition for economic *theory* is evident. Both in classical and neoclassical competitive economic theories the proposition has been seen as a crucial one for defining the 'normal' outcome of capitalist competition. It is only in the modern intertemporal versions of neoclassical theory that the idea is abandoned.

The great merit of Quesnay's contribution to the theory of capital consists mainly in the analytical rigor which he introduces to the subject.<sup>4</sup> Quesnay's preoccupation with the amount and nature of the farmers' advances as the principal variable determining the productivity of agriculture, and consequently the wealth of the nation, forms a persistent theme in his writings from his earliest economic article, 'Farmers' (1756), onwards (cf. Vaggi 1987: 217, note 21). The famous distinction between *la petite culture* and *la grande culture* drawn in the articles of the *Encyclopedie*, is primarily based on the difference in the amount and nature of the advances made in the poor and rich regions of France.<sup>5</sup> While his earlier discussions of the different items which constitute the agricultural advances are more detailed, the analytical precision of his views is improved upon in his later work. As Schumpeter (1954:235) remarks, the development of Quesnay's theory of capital '[...] is an interesting illustration of the way in which, in the mind of a born theorist, *analytic generalization may grow out of observation induced by preoccupation with practical problems*'.

The main instrument aiding this 'analytic generalization' is undoubtedly Quesnay's *Tableau économique*.<sup>6</sup> The clearest theoretical discussion of the different kinds of advances is given by Quesnay in the article 'Analyse' (1766) which accompanies the final, so-called 'formula' version of the *Tableau*. In this article Quesnay explains that the 'fund of wealth employed in cultivation' is subdivided into two parts, the annual advances (*avances annuelles*), and the original advances (*avances primitives*). In fact, Quesnay distinguishes a third kind of advances, the *avances foncières* or 'ground advances'. These latter advances are understood to be made not by the farmers, but by the landowners. They consist of all kinds of improvements to the land, and the erection of buildings, which make landed estates fit for cultivation. While these advances do not figure in any of the

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4 Already in the work of some economic writers before Quesnay the notion is emphasised that prior to production the making of advances is required. Boisguilbert asserts, for example, that the production of corn '[...] neither comes about by chance, nor is it a free gift of nature; it is the result of a continual labour, and of the spending of things bought with money [*frais achetés à prix d'argent*], this original and necessary manna is abundant only in proportion to the liberal spending [on the land], completely refusing all to the one which does not want to give it anything'. (Dissertation 1704:386). Clear textual evidence of the original influence of Boisguilbert on Quesnay can be found in the latter's article 'Impôts' (1757), where a classification of four kinds of wealth is used which is nearly identical to the classification of Boisguilbert in *Traité des Grains* (1697-1707:325). This classification is criticised by Turgot (see note 107 below). For an examination of the relation between the notions of reproduction in Boisguilbert and Quesnay see Nagels (1970). The probable influence of Cantillon on Quesnay's perception of the economy as a reproductive system has been discussed quite often. See Herlitz (1961); Meek (1962:266-72); Fox-Genovese (1976:273-4); Aspromourgos (1996:103-25). However, compared to Quesnay, these earlier writers give a far less systematical treatment to the notion that the recovery of advances is a fundamental economic problem related to the possibility of continuing, or expanding, production.

5 Another difference is that peasants are share-croppers, as opposed to farmers who make their own advances. The point that the distinction between the two kinds of cultivation is thus not only a technical but also a socio-economic one is emphasised by Steiner (1987:1113). See also section 8.2.

6 For the genesis of the *Tableau* see references in note 1 of chapter 3.

*Tableaux*,<sup>7</sup> they are emphasised, as we will see, especially by the younger physiocrats as a justification of and explanation for the payment of rent (see 8.3.1).

The distinction between the annual and original advances is based upon the difference in durability of the commodities entering into production. The annual advances are used up completely within one cycle of production and thus need to be fully replaced in order to enable the production of the same quantity of output during the next cycle. They consist of agricultural produce which is used mainly for the consumption of the farmer, his family and his workers, and as seed.<sup>8</sup>

The original advances, on the other hand, are not fully used up during one cycle, and therefore each year have to be replaced only partially. The original advances consist of tools and instruments and live-stock. Not only are these more durable goods '[...] subject from day to day to a wearing away which demands continual repairs' (Quesnay 1766b:154), cultivation is also exposed to 'a number of serious accidents which sometimes almost completely destroy the harvest; such are frost, hail, blight, floods, mortality among live-stock, etc.,etc.' (*ibid.*155).

For these two reasons an 'interest' will have to be recovered by the farmers which 'enables them to face these serious accidents and the day-to-day maintenance of the wealth employed in cultivation, which requires to be constantly kept in repair' (*ibid.*). This interest is estimated at 10% of the total stock of original advances of the farmer. The reason for this figure is not entirely clear. Quesnay does not unambiguously relate it to the average durability of the original advances, since the interest is assumed to cover besides depreciation, also 'serious accidents'. He simply asserts that, given the importance of the original advances to agriculture, 'it is far from being the case that a rate of ten per cent for the interest on the perishable advances of cultivation is too high' (*ibid.*).<sup>9</sup>

Another important aspect of Quesnay's analysis of agricultural capital in 'Analyse' is that

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7 The *avances foncieres* are briefly mentioned in 'Analyse' (1766b:159-60).

8 Quesnay (1766b:162) says that, unlike in chapter 7 of the *Rural Philosophy*, 'fodder for the labouring animals employed in cultivation' is not included in the calculations of the formula. Whether this item has to be included in the annual advances (since fodder is fully consumed), or in the primitive advances (since it 'maintains' live-stock) is not entirely clear.

9 Already in 'Farmers' (1756), Quesnay pays attention to the depreciation of durable inputs and puts this rate at 10%. However, this rate is not exclusively related to the depreciation of fixed capital (see Quesnay 1759b:132 and 1763:148 respectively). Other physiocrats use the same figure. See e.g. Mirabeau (1763, II, 90-1); Baudeau (1767-70:825; quoted in Meek 1962:303). Similarly, Le Trosne (1770:28) states that '[b]esides these returns [the annual advances] an interest is due to the entrepreneur of cultivation for the outlay of original advances proportioned to the risks. This interest is not too high at 10 per cent'. Even though he further explains, in a footnote (*ibid.* 28), that this interest also 'serves to the upkeep of his first fund of original advances [*son premier fonds d'avances primitives*] which degrades', Le Trosne does not unambiguously associate the rate of 10% with the rate of depreciation of capital either. Some commentators argue that the figure of 10% means that the physiocrats understood the average durability of fixed capital to be 10 years (see Marx 1885,II, II, ch. 10). This conclusion is an (understandable) rationalisation of Quesnay's figure. The reason to stress this point is not to be pedantic. It is important in connection with Isnard's discussion of the depreciation of fixed capital (see section 4.1).



it is understood to consist in part of manufactured goods purchased from the 'sterile' class. The 'productive' (agricultural) sector thus uses not only part of the own output as inputs in the next cycle of production, but also part of the output of the 'sterile' (manufacturing) class. Quesnay asserts

[...] two milliards' worth of [own] products still remain in the hands of the productive class. In addition, this class has purchased one milliard's worth of the products from the sterile class. This adds up to an annual sum of three milliards, which is consumed by the various agents employed in the different types of work of this class, which are paid for by the annual advances of cultivation, and in the various types of day-to-day work involved in keeping the capital of the enterprise in proper repair, which are paid for by the interest [...](1766b:154).

The point that manufactures enter into agricultural production is not stressed, but is nevertheless clear. Presumably it is the 'own' produce, withheld from circulation (2M), which is considered to be the annual advances, while the purchased manufactures (1M) are seen as the upkeep of the original advances (*ibid.*161). The likely reason why Quesnay does not stress this point is that the admission that agriculture is not a self-sufficient sector, and that the 'sterile' class produces, apart from luxury goods, also necessary inputs (1 milliard of each) complicates the defense of the doctrine of the exclusive productivity of agriculture (see above sections 3.2 and 3.5).

With respect to the advances of the manufacturing class, Quesnay argues that these consist entirely of annual advances. Moreover, these advances, comprising raw materials and food (1 milliard each) are purchased entirely from the 'productive' class. Most commentators conclude from this that Quesnay does not allow for the existence of original advances in manufacture. By and large this is probably a correct rendering of his position.<sup>10</sup> In this respect, Morellet, Turgot, Isnard, and even to some extent Le Trosne,<sup>11</sup> all diverge from Quesnay's position.

However, this does not alter the fact that Quesnay's concepts of 'annual advances' and

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<sup>10</sup> Quesnay (1766c:227) indeed seems to be quite clear on this point. Vaggi (1985) uses this assumption in his reconstruction of the 'physiocratic model of prices and income'. In this model the fundamental price of manufactures is assumed to be  $a_{12}p_a = p_2$  (where  $a_{12}$  is agricultural produce used in industry,  $p_a$  the retail price of the agricultural produce, and  $p_2$  that of manufactures. There is no  $a_{22}$  in Vaggi's model which would represent the durable capital produced and used up in industrial production. Still, as Eltis (1984:13) notes, in the zig-zag version of the *Tableau*, Quesnay recognises the existence in the industrial sector of 'tools, machines, forges, and other works' (Kuczyński and Meek 1972:viii-ix). Herlitz (1961:148-150) argues that these *avances primitives* 'are removed from the doctrine' in later versions and commentaries, because they do not fit with the arithmetic of Quesnay's later constructions.

<sup>11</sup> Le Trosne (1777b:939) acknowledges that '[i]ndustry has [...], just like agriculture, its *avances primitives* consisting of techniques and instruments for which an interest is due. It also has to make expenses for the maintenance of its agents [*i.e.*, *avances annuelles*]. It further has another type of advances which is particular to [industry]; the fund of raw and finished materials held in reserve'. The latter 'fund' appears in the formula version of the *Tableau* as the 1 milliard of *avances de la classe stérile* which this class possesses at the outset and which are understood to be carried over from the previous year. Unfortunately, in his own exposition of the formula (1777a:320-4) Le Trosne conveniently ignores his own admission of the existence of original advances in industry.

'original advances' have an important bearing on the views on capital of the former group of writers. Indeed, the two concepts are also more or less similar to the respective notions 'circulating' and 'fixed capital' of later classical economics. The simplicity of Quesnay's distinction may give the mistaken impression that it is an obvious one. This impression is corrected if one compares Quesnay's discussion of the different types of advances to treatment of the same issue by Adam Smith. In this context a, so far unnoticed, discussion by Morellet of Adam Smith's definitions of capital (ms. 2520:289-97) is interesting. As is well known, in the *Wealth of Nations* (II,i,164-7) Smith divides 'the general stock of society' into a) 'that portion which is reserved for immediate consumption, and of which the characteristick is, that it affords no revenue or profit'; b) 'fixed capital, of which the characteristick is, that it affords a revenue or profit without circulating or changing masters'; and c) 'circulating capital, of which the characteristick is, that it affords a revenue only by circulating or changing masters'.<sup>12</sup>

Morellet argues that 'one can criticise this division from many sides' (ms.2520: 291) with regards to the criteria which Smith uses for his classification, and also for the reasons why he allocates a number of specific items to particular categories. In the first place, he disagrees with Smith's decision to exclude from the stock of 'profitable' capital all goods intended for immediate consumption, (*i.e.*, category a)). The reason for this is that a part of immediate consumption is necessary for reproduction:

[O]ne can not regard the portion of wealth which is used for immediate consumption as sterile and yielding neither revenue nor profit [...] one sees for example that grains and other subsistence goods which are destined for the immediate consumption of the farmer, of his animals, and his people contribute to [*concourent à*] the total product within which the profit of the farmer is found, and which supplies the revenue of the landowner (*ibid.*).

Second, Morellet criticises the criterion used by Smith to distinguish between fixed and circulating capital: that of (not) having to be sold to yield a profit. He sums up Smith's examples of circulating capital - 'the meat of the butcher, the fattened up animals of the farmer, the beer of the brewer etc. the industrial products of the manufacturer, [...] the raw materials of buildings, cloaths, furniture etc.' (*ibid.*; cf Smith 1776,II, i, 167) - and comments '[...] I do not understand [...] in what sense one can call circulating several of those capitals which Smith opposes to fixed capitals [...]' (*ibid.*). With respect to the edibles [*comestibles*], they 'do not circulate at all, they are sold [,] consumed and destroyed' (*ibid.*292). With respect to the raw materials of buildings which are not yet finished,

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12 Morellet begins his examination by reproducing these distinctions of Smith (Ms. 2520:289).

[they] do not have any movement which can be called circulation [and] when the building is finished it is neither more capital nor more fixed than before [...] it only starts being applied to the uses for which it is suited; is going to be used over periods of time and demands to be maintained (*ibid.* 292-3).

Morellet's criticism of Smith's definitions of capital is thus based on a disagreement with the criteria which the latter uses for calling commodities profitable or unprofitable, and fixed or circulating. First, according to Morellet, whether or not a commodity is 'profitable' capital depends not on the criterion whether or not it is immediately consumed, but on whether it enters into the production of other commodities.<sup>13</sup> Second, whether a commodity is circulating or fixed capital depends not on the criterion whether or not it has to be sold to yield a profit, but on whether it is used up in production within one period of production or is used up gradually.

The circumstance that one part of capital is fixed and another circulating, seems rather less important in the theory of capitals [...] *the difference arises from the fact that the former, once they are provided only have to be maintained*, like buildings of exploitation of a farm, useful machines of a factory [...] (*ibid.* 291; emphasis added).

It can safely be said that the criterion which Morellet here opposes to Smith as the proper one to distinguish between the two types of capital is that of Quesnay. The interesting point about this criticism is that it constitutes some rare evidence that in some respects Quesnay's theory of capital is already perceived by a contemporary commentator to be analytically superior to that of Smith; that is, long before Marx expresses similar opinions, and Ricardo argues that durability is the proper criterion for the distinction between fixed and circulating capital.<sup>14</sup>

### 7.2.2. Quesnay's 'theory of profit'

While the precise analysis of the different kinds of advances in agricultural production is one of the outstanding elements of Quesnay's economic theory, he hardly develops a theory of an income share which is associated with such advances, *i.e.*, a theory of profit. To clarify, Quesnay does express some ideas which can interpreted as a 'theory of profit', but he does not develop the classical idea

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13 As we will see in section 7.3.1 Morellet uses the term 'active capital' for these commodities.

14 See Marx (1885, II, II, ch. 10). For a recent discussion of Marx' assessment of Quesnay's notion of capital see Delmas and Demals (1995:162-4). See also Gehrke and Kurz (1995). Vaggi (1995) also maintains that in some respects Quesnay's analytical categories were clearer than those of Smith. Ricardo (1821, ch.I, sect.iv) writes: 'According as capital is rapidly perishable, and requires to be frequently reproduced, or is of slow consumption, it is classed under the heads of circulating or of fixed capital'. To which he adds the note: 'A division not essential, and in which the line of demarcation cannot be accurately drawn'. Like in Morellet's remark cited in the main text, Ricardo's qualification that the distinction between fixed and circulating capital is 'not essential', *i.e.*, that it is a matter of degree, may be taken as a criticism of Smith. For a defense of Smith's distinction *vis-à-vis* Ricardo's, see Senior (1836:61-64).

of profit as a return on capital advanced (but see note 104 below). Isnard criticises this 'deficiency' when he observes that the *Economistes* fail to acknowledge 'that each proprietor of [...] capitals attracts a part of the disposable wealth' (Isnard, 1781, I, 41 n.g).

In a sense the idea that the agents who advance capital do not normally share in the surplus of society is a curious one for Quesnay to maintain, since, as Meek (1962:298) puts it, the 'whole *raison d'être* [of the former's theory] was the advocacy of a state of affairs in which economic activity, particularly in agriculture, would be conducted by wealthy entrepreneurs motivated by a desire for profit'. However, at the same time the formalisation which Quesnay gives to his theory in the final version of the *Tableau économique* leaves little doubt that the net product is wholly appropriated by the landowners, the farmers (or *entrepreneurs de cultivation*) only getting their advances returned to them.

This apparent contradiction has inspired students of physiocracy to attempt to explain how within this theory farmers may still be perceived to obtain an income sufficient to motivate them to continue and, if possible expand, their enterprises. According to Meek, the most likely explanation is that the physiocrats believe that the replacement of annual advances, which includes the payment of wages generally, also includes the payment of a 'superior wage' to the farmers.<sup>15</sup> This remuneration can be considered as ' [...] a sort of superior wage-of-management-plus-payment-for-risk-bearing', a formulation which suggests that this notion may have been inspired by Cantillon (see Meek 1962:280, 305).

Another explanation, only hinted at by Meek, is that Quesnay did allow for the existence of farmers' profits, but not in the formula version of the *Tableau*. The reason for this is that this *Tableau* pictures 'a large kingdom whose territory [is] fully cultivated by the best possible methods [...]' (Quesnay 1766b:151), or in other words, 'a model of the economy in which large-scale cultivation is assumed to be universal, and which is sufficiently long-period to enable us to assume that any above-average profits have crystallized out into rents [...]' (Meek 1962:304).<sup>16</sup> This model abstracts from two circumstances which would allow for the existence of farmers' profits. First, as

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<sup>15</sup> He mainly bases this view on a passage in *Philosophy Rurale* (Vol.I:313) where it is argued that in the annual returns a 'reward [to the farmer] due to the trouble, work, and risks of his enterprise' should be included.

<sup>16</sup> The phrase 'above-average profits' is a little unfortunate in this context, since it implies that there is a notion in Quesnay of 'average profits' which would persist after the renewal of the lease. An alternative description of Quesnay's notion of profit is given by Vaggi who calls it a 'profit upon alienation', because the profit is occasioned by a positive difference (when there is a *bon prix*) between the current market price of agricultural goods and the necessary costs of the farmer (including the rent due to the landlord). This term also seems to be unfortunate because, Vaggi believes that through the higher current price the farmers can share in the net product of the land, *i.e.*, a surplus originating in the 'sphere of production'. In contrast, a 'profit upon alienation' suggests that this income originates in circulation. Instead the terms 'quasi-rents' or 'dynamic profits' may be more suited.

long as one assumes that large scale cultivation is *not* universal, then the large scale farmers can be perceived as making large profits due to the superior production methods (and consequently lower unit costs) compared to those of the peasants. Second, if one does *not* abstract from the fact that during the course of a lease farmers may improve cultivation and reduce costs, then this can be seen as an explanation of how they may obtain profits.

Recently, Vaggi (1985 and 1987 esp. chapter 5) has highlighted the importance in physiocratic theory of these types of profits (what can be termed quasi-rents or dynamic profits), constituting an income to farmers in excess of the necessary costs of production. According to Vaggi, physiocratic theory is primarily concerned with the dynamic analysis of a developing economy. Therefore the views of the physiocrats concerning the increase of production should be highlighted (Vaggi 1987:153-4). Vaggi's interpretation has undoubted merits in making sense of Quesnay's recommendations for the regeneration of French agriculture. Quesnay persistently stresses that for this regeneration the ascendancy of a class of wealthy farmers is essential, because only a prosperous farmers could be expected to adopt new agricultural techniques on large farms requiring large sums of advances. Therefore, Vaggi argues that the physiocrats recognised that in order to effect the expansion of agricultural production, it was necessary to create conditions which allowed farmers to grow rich and accumulate capital. These conditions consist primarily in the increase of agricultural prices. In many places the physiocrats advocate the establishment of *bon prix*, which would leave a profit to the farmer which is 'high enough to stimulate the cultivator to invest and risk his gain in increasing the advances of production' (Vaggi 1987:129-31).

While earlier commentators (see e.g. Spengler 1945:200,n.48; Meek 1962:303-4) argue that such profits exist in physiocratic theory for the duration of the land leases at most, Vaggi (1987:137-140) maintains that this profit margin should be considered to be persistent. The persistence of this type of profits depends entirely on the continued expansion of agriculture. In Vaggi's interpretation of physiocratic theory, agricultural production is assumed to be continuously increasing, requiring ever larger advances. Moreover, agricultural prices are assumed to remain *bons prix*, allowing farmers to persistently make the net profit necessary for the financing of ever larger advances.<sup>17</sup>

Vaggi's interpretation of Quesnay's 'theory of profit' has attracted several criticisms. Not entirely to the point, Steiner (1987:1123 n.1) argues that the French word 'profit' is exclusively used by Quesnay in the sense of 'gain to subsist' and that therefore the latter does not associate profits

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17 More specifically he argues that even if the farmers are forced to give up the whole increase in production obtained during the course of a lease to the landlord at the moment of the renewal of the lease, *on average* the increasing size of the output will ensure a net profit for the farmers.

with capital accumulation at all.<sup>18</sup> Gilibert (1989:95) notes that much of Vaggi's textual evidence is derived from Quesnay's earliest articles written before he developed his own ideas more rigorously. The passages which Vaggi takes as support for the view that Quesnay had a consistent theory of profit, may therefore instead point to the latter's initial *lack* of consistent ideas. Prendergast (1991:420) and Aspromourgos (1996:123) hold that Vaggi's interpretation is mainly designed to read logical consistency into Quesnay's program for the regeneration of French agriculture, but that it is not sufficiently supported by textual evidence.

While it may be true that Vaggi reads a little too much consistency into some of Quesnay's writings in order to make his (by and large credible) interpretation acceptable, there are two reasons why his interpretation needs to be noted in the present context. The first reason is a positive one. That is, in Turgot's work the idea that farmers can earn super profits as long as the economy is expanding, is also present. This is especially clear in his 'Letters on the grain trade', where in one place Turgot answers the distinctly physiocratic question why farmers would want to improve cultivation, if they have to give up the additional produce obtained in this way to the landlord at the renewal of the lease.

Turgot argues that farmers can obtain extra large profits during the course of the lease. That is, profits which exceed the return which could be obtained if the farmers would lend their capitals. For this reason, farmers prefer to plough back their profits into their enterprise and expand production. This expansion in turn will yield the farmers even higher profits.

[...] this capital and this interest, firmly assured to the farmer-cultivator, and steadfastly used by him to swell the advances of cultivation, must, following the present course of events, increase the produce in a much greater proportion than the interest of these new advances. Undoubtedly, the cultivator will in time agree to yield the proprietor his share in the increase in profit; but this will always happen only after he has wholly benefited from it himself up to the expiry of the lease [...] Hence, there results a progressive increase in the wealth of the cultivators, in the advances in agriculture, in the total produce and the values gathered annually from the soil. This progression may be fast or slow: but if the outlets continually raise sales, either by regular exportation, or by an increase in population, it will have no other limit than the physical one of the fertility of the soil (Turgot 1770b:172-3).

The idea that farmers' profits will be the result of an expanding economy, in which the increase in the agricultural surplus does not immediately devolve to the landowners, is thus also expressed to by Turgot.

A second reason to highlight this explanation of profits is a negative one. That is to say, it

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<sup>18</sup> Cf. Meek (1962:41) who correctly notes that 'in Quesnay's work *profit* does not necessarily (or indeed usually) refer to a general category of income bearing a more or less regular relation to capital employed [...]'. This linguistic point also applies to other French writers of the period. Whenever Turgot specifically refers to the income share which is the return on capital advances he uses *intérêt*, rather than *profit*. However, the fact that Quesnay does not have a precise term to express his notion of profit does not seriously undermine Vaggi's interpretation.

is also important to note in view of the discussion of the remainder of this chapter, that this theory of 'dynamic profits' or quasi-rents, is quite different from the theory of profit as a (normal) return on capital advanced.<sup>19</sup>

### 7.3. Turgot's theory of capital

In contrast to Quesnay, Turgot does develop a theory of profit as a return on capital advanced. In fact, the theory of profit which the latter presents in the *Reflections on the Formation and Distribution of Wealth* (1766), is part of a larger theory about the formation of and the returns on capital in different employments. According to Turgot, accumulated funds can be invested in land, (the return on which is 'rent'), it can be laid out in the annual and original advances of an agricultural, industrial, or commercial enterprise, (the return on which is 'profit'), and it can be put on loan, (the return on which is 'interest'). In his theory, these three types of return are interrelated and establish amongst themselves 'a kind of equilibrium' (Turgot 1766:87).

To fully appreciate this theory of the various returns on capital, it is necessary to first examine what Turgot exactly understands by the term 'capital' and how he explains its formation and 'movement'. The next section will discuss the most general concept of capital which Turgot uses, the notion of *richesses mobilières*. In the following section special attention is given to the role which money capital has in Turgot's theory. Having looked at the notions of moveable wealth in general and money capital in particular, we are in a better position to understand Turgot's theory of the 'movement of capitals' and the relation between the different returns of capital.<sup>20</sup>

#### 7.3.1 Turgot's concept of capital: *richesses mobilières*

While Quesnay's analysis of capitalist production focusses on the farmers' *avances primitives* and *avances annuelles*, Turgot's basic notion of capital is the much wider category of 'moveable wealth'

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<sup>19</sup> To be clear, this is acknowledged by Vaggi (1987:190-2) and (1995).

<sup>20</sup> It should be pointed out that the interpretation of Turgot's theory of capital presented here differs from the reading given to it by some influential commentators. The most well-known interpretation is that of Groenewegen (1971), who also discusses earlier authoritative interpretations of Turgot's theory of capital, by Cassell, Böhm-Bawerk, and, most influentially, Schumpeter (1954:243-9). In a more recent article by Groenewegen (1982:130) rightly points out that '[...] in the case of capital theory, Turgot's "modernity" can be exaggerated and its proximity to neo-classical thought over-emphasised'. This approximates Meek's judgement (1973a:19-20) that '[i]t is perfectly possible, of course, if one wishes, to abstract Turgot's theory of capital from its context and present it purely as an anticipation of the best nineteenth-century analytical work in this field - which it indeed was. But by doing this alone, one tends to underestimate the brilliance of Turgot's achievement, and cuts oneself off from any hope of understanding the way in which the 'modern' and 'Physiocratic' parts of his analysis were related to one another'. The present interpretation affirms this view.

(*richesses mobilières*). The notion is first introduced in section 49 of the *Reflections*, where the following definition is given:

[...] articles of a more durable nature, whose value would not be destroyed by time, or which could be employed in such a manner, as to procure profits which would more than make up for their deterioration. [...] Possessions of this kind, resulting from the accumulation of annual produce not consumed, are known by the name of *moveable wealth* (1766: 65).

According to Turgot, the stock of 'moveable wealth' in society consists simply of the accumulated mass of durable man-made objects. For this reason *all* durable goods are included in this category, initially regardless whether or not those goods are employed in production (or, used as capital): '[f]urniture, houses, plate, commodities in warehouses, the tools of each trade, and cattle, belong to this kind of wealth' (*ibid.*).

To explain the existence of this stock of moveable wealth in society, Turgot outlines a highly original theory of the formation, or accumulation, of capital. There are several aspects to this theory. In general, the stock of moveable wealth is seen as the result of a gradual process of saving out of the annual produce. It is 'annual produce not consumed', or 'the accumulated fruits of the thrift of successive ages' (*ibid.* 65 and 94). Consistent with physiocratic doctrine, Turgot states in a couple of places that

[i]t is always the land which is the primary and unique source of wealth: it is the land which through cultivation produces all revenue; and it was the land which provided the first fund of advances prior to all cultivation (1766: 66).<sup>21</sup>

More specifically, accumulation is presented as saving out of the surplus. To illustrate the idea of saving of moveable wealth out of the surplus, Turgot presents a brief, but fascinating, historical account of the kinds of moveable wealth which formed the principal objects of accumulation among peoples with earlier modes of subsistence.<sup>22</sup> In the stage of hunting and fishing there hardly existed

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21 See also section 100, p.94: 'Not only is it true that there does not exist, nor can there exist, any other revenue than the net product of land, but it is also the earth that has furnished all capitals that form the total of all the advances of agriculture and commerce'.

22 Morellet (1769:338) also shows an interest in this type of historical account of accumulation. Under the entry 'RICHES or CAPITALS' in the *Prospectus*, he announces that '[o]ne can explain how the first capital in foodstuffs arises, and how the capitals increase; study the origin and follow the formation of wealth in the various types of life of the Hunters, Pastoral people, and Farmers; identify in each the advances of work, the products of work and its division in two parts of which the first returns the production of the previous year and the upkeep of advances, and the other according to the various uses which one makes of it is applied either to the increase of enjoyments, or to the multiplication of the species, or to the increase of production, or to the maintenance of the chiefs of society and more generally how it is divided between those various destinations'. This passage indicates that Morellet intended to give a more formal treatment to this kind of history of accumulation (cf. note 80 chapter 4). Unfortunately, no more developed text has been found among Morellet's manuscripts. It is probable that this conjectural historical approach to the phenomenon of accumulation is inspired by Turgot's stadial theory of history, with which Morellet will have been acquainted from his years at the Sorbonne (see Meek 1976 especially 68-76). Meek's conclusion that it is 'bound to remain an open question' whether Turgot's version of the four stages theory influenced anybody in the 1750s, may be a little



a stock of durable commodities.<sup>23</sup> The 'first fund' consisted of cattle which grew steadily among pastoral peoples.<sup>24</sup> In addition, according to Turgot, slaves were an important kind of moveable wealth in more primitive societies (*ibid.* 67).<sup>25</sup> Gradually, because pastoral peoples tended to become sedentary and because cattle, as well as slaves, 'could be accumulated almost without limit', land acquired a value relative to moveable wealth. The emergence of land as a valuable fund (*richesses foncières*), is associated with the transition to the agricultural stage. Land is *similar* to moveable wealth with respect to the qualities of being durable, and of being capable of yielding an annual produce.<sup>26</sup>

One of the points made by means of this historical conjecture, is that the type of durable goods accumulated, or 'the composition of the stock of durable commodities', adapts to the mode of subsistence of people. This mode of subsistence is not only characterised by the dominant mode of production of a people, but also by their 'moral character'.<sup>27</sup> The latter has a direct bearing on the question which motives for accumulation are dominant in which stage of society, and thereby on the kind of durables accumulated.

Turgot can be said to distinguish three motives for accumulating durable goods. First, people save to insure themselves against future eventualities; second, they acquire durable objects by way

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too cautious in Morellet's case. Further study of his manuscripts may reveal more on this point. *Inter alia* Turgot may have found the germs of his stadial theory in Pufendorf (see Hont 1987). Meek also notes that the stadial theory of history was not completely absent in the physiocratic literature. It appears in the *Philosophy Rurale* (Meek 1976:132) and in the early 1770s Dupont produces a *Table Raisonnée* of world history in which four stages figure (*ibid.* 184; cf. McLain 1977:131). (It should be noted however that the modes of subsistence which Dupont distinguishes are those of a) 'The gathering of spontaneous vegetable products', b) 'Hunting and fishing', c) 'The pastoral life' and d) 'A beginning of agriculture'. A final stage of 'commercial society' does not figure in Dupont's sketch. In fact, Turgot does not emphasise the fact that 'commercial society' should be considered as a next stage in which the agricultural mode of subsistence is superseded. Perhaps he saw his account of the increased role of capital, and the associated income share profit, more as a theory of how the agricultural mode of production intensifies and modernises itself.

23 'The first Cultivator took the seed which he sowed from the plants which the earth had of itself produced; while waiting for the harvest, he lived by hunting fishing, and upon wild fruits; his tools have been the branches of trees, torn down in the forest, and shaped with stones sharpened against other stones; the animals wandering in the woods he took himself in the chase, or caught in his traps; he brought them into subjection and tamed them; [...]' (1766:66).

24 [...] cattle were in early times the most sought after of all moveable wealth, and also the easiest to accumulate; they die, but they reproduce themselves, and the wealth of which they consist is in a way indestructible: this fund itself grows by the mere process of generation, and gives an annual product, either in dairy produce, or in wool, in hides or in other materials, [...] (*ibid.*).

25 Cf. sections 21 and 22, which were substantially rewritten by Dupont.

26 An idea which is rejected by Turgot is that the value of a piece of land derives from the moveable wealth employed to it in order to render it fertile, and that rent is proportional to this initial expenditure, the *avances foncières*. This idea is developed at about the same time by Baudeau, Dupont and Le Trosne. See section 8.3.1.

27 The relation between the mode of subsistence and the moral character of a people is more fully discussed in Turgot's early work 'On Universal History' (1751 or 1752). The English translation is in Meek (1973a:61-118).

of luxurious consumption; and third, they save in order to invest in some 'lucrative work'. These three motives are recognised throughout the *Reflections*, but later on in the text the emphasis shifts to the latter motive. In part, this shift has historical reasons. Turgot suggests that initially accumulation originated from the inclination of some men '[...] anxious about the future, or merely prudent, [to] put aside part of what they gathered every year, either to meet contingencies, or to increase their comforts' (1766:65). In addition to these two original motives (giving rise to hoards and 'consumer durables'), 'productive wealth' was soon accumulated because '[i]t is also necessary that in every trade the Workmen or the Entrepreneur who set them to work have a certain fund of moveable wealth, accumulated beforehand' (1766: 65-6).

The latter motive for accumulation is greatly encouraged once the agricultural mode of subsistence establishes itself. This gives rise to a commercial economy in which industrial and mercantile enterprises can develop as well. The improvements in agricultural production, which itself largely depends on the availability of funds,<sup>28</sup> gives rise to an increasingly larger surplus that can either be used for luxury consumption or re-investment. The latter use tends to predominate, because in a commercial society many different lucrative employments of capital emerge. That is, accumulated funds can be used to purchase a landed estate, they can be advanced to some industrial, agricultural or mercantile enterprise, and they can be placed on loan (sections 58; 59-60; pp.62-4; 66-7; and 71 respectively). According to Turgot, accumulation with the objective of employing one's wealth to obtain a return became preponderant in Europe in the previous centuries.

[...] the spirit of thrift has been more general than the spirit of luxury [...] in the present state of things, as all land is occupied, there is but one way to become rich, it is either to possess, or to procure in some way, a revenue or an annual profit above what is absolutely necessary for subsistence, and to reserve this surplus every year so as to form an annual profit, which may again be saved and converted into capital. There are consequently a great many people interested and occupied in accumulating capitals (1766:85).<sup>29</sup>

Turgot suggests that the predominance of 'the spirit of thrift' in the commercial society is associated with the emergence of an entrepreneurial class. In principle, everybody can save:

Whoever, either from the revenue of his land, or from the wages of his labour or industry, receives each year

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28 See section 64, which is clearly based on Quesnay's theory of the importance of capital to 'la grande culture'. Cf. sections 25-27. Cf. below note 11 chapter 8.

29 Morellet (manuscript 2520:201) has the following comment on this passage: 'The author of the excellent work of the formation and distribution of wealth says that the rate of interest in Europe has been falling since several centuries [...] he wants to conclude from this that the spirit of thrift has been more general than the spirit of luxury. I do not know whether this conclusion is completely legitimate. It is difficult to believe that consumption which is precisely the opposite of the spirit of thrift has not prodigiously increased [compared] to what it was several centuries ago. But one should realise that production has increased through the perfection of agriculture [,] of the exploitation of mines [,] of fishing and of all the arts which aid the former. Therefore one has been able to consume more without hampering the increase of capitals'. In other words, Morellet suggests that when the social surplus grows, the 'propensity to save' does not necessarily have to increase to sustain growth, which seems a legitimate point.

more value than he needs to spend, may set aside this surplus and accumulate it: these accumulated values are what is called a *capital* (1766:69).

However, the savings of workers normally have as object to create a 'little store' to provide for eventualities.<sup>30</sup> With respect to landowners,

[...] although [they] have a greater surplus, they save less; for as they have more leisure, they have more wants, and more passions; they regard themselves as more assured of their fortune; and think more about enjoying it contently, than about increasing it: luxury is their lot (1766:94).

In contrast, it is especially the class of entrepreneurs which reinvest the part of the surplus which devolves to them.

[...] almost all of them, devoted as they are to their enterprises, and occupied with increasing their fortune, removed by their labour from amusements and expensive passions, save all their surplus, to invest it again in their enterprise and to increase it (1766:94).

The recognition that in a commercial society it is specifically the accumulation of funds yielding a return that matters, leads Turgot to subdivide the mass of moveable wealth into two classes in the later sections of the *Reflections*. One part is 'the sum of the capitals which are employed in all the agricultural, industrial, and commercial enterprises' (1766: 88-9), in other words 'cattle, utensils and seed which constitute the advances of Agriculture; [...] raw materials tools, furniture and merchandise of every kind which fill the workhouses, shops, and warehouses of all Manufacturers, Merchants, and Traders [...]' (1766:89).

The other part consists of items which

[...] though they were originally an object of expenditure and do not bear any profit, become, however, by their durability, a true capital which is continually accumulated, and which, when required may be exchanged for money, making, as it were, a reserve fund which may return into commerce, and, when desired, make up for the loss of other capitals. This includes the furniture of every kind, jewels, plate, paintings, statues, ready money locked up in the chests of misers [...] (1766:90).

This subdivision of the mass of moveable wealth is crucial, since it is no less than the distinction between commodities that are employed as capital, and those commodities not so employed. This is confirmed by Morellet who, inspired by a typical preoccupation with developing a precise economic terminology, clarifies that

[...] we only call *Capital* that wealth which is in fact employed in some kind of enterprise. If [however] one would want to apply the term *Capitals* to saved wealth without actual employment, one should call them *idle Capitals* [*Capitaux oisifs*], as opposed to *active Capitals* [*Capitaux agissants*] (Morellet 1769:205).

Clearer even, in manuscript 2533:122, Morellet asserts:

[...] a capital is by force of the word a value which is employed usefully, which regenerates and maintains itself and regenerates moreover a profit or interest.

The recognition that only that part of accumulated moveable wealth actually employed in

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30 Cf. the discussion of Turgot's views on the function of the savings of workers in section 6.3.

some kind of enterprise is capital properly speaking, does not mean that other durable commodities are irrelevant in relation to production. Turgot does not call the idle capitals a 'reserve fund' for no reason. They could be used either as securities for loans which are in turn employed 'actively',<sup>31</sup> or they can serve as an insurance for unforeseen entrepreneurial losses. For this same reason Morellet remarks that '[e]very real wealth is a *potential capital*, [*un capital en puissance*] [...]'.<sup>32</sup>

To sum up, Turgot's general concept of capital is that of 'moveable wealth'. It is considered to be the stock of durable man-made commodities gradually accumulated out of the annual surplus of society. In a commercial society, one can distinguish between on the one hand 'active' capitals which consist of the advances of agricultural, industrial and commercial enterprises, and which yield a return to their owners, and on the other hand 'idle' capitals which are either hoards or 'durable consumer goods', which do not yield a return to their owners.

### 7.3.2 Money capital.

In Turgot's theory of capital a particular emphasis is given to the function of money, that is precious metals, in the process of accumulation and employment of capital. The role of money is highlighted from the crucial short section 29 onwards, following directly upon what is considered

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31 Section 80: 'A paper signed by a man who is known to be worth a *hundred thousand francs*, and who promises to pay a *hundred thousand francs* at a certain date, is worth a hundred thousand francs until that date: all the capitals of the man who has signed this note are answerable to the payment of it, whatever the nature of the effects he has in his possession, provided they have a value of a *hundred thousand francs*.'

32 Ms. 2523:49: 'In order to clarify the questions which we here consider, it is perhaps useful to *precisely define the word capital* in all the meanings which can be given to it, and in all the modifications that can be recognised. Those different modifications are *active capital*, *stagnant capital*, *circulating capital*, *productive capital*. Gold and silver kept in the coffers of misers or buried, or converted into crockery and works of art are stagnant capitals. Gold and silver money serving to conduct exchanges are circulating capitals. The mass of foodstuffs and merchandises and primary materials and buildings [,] employed and consumed to obtain the annual production of the soil is an active capital and productive of an annual wealth. Every real wealth is a *potential capital* [*un capital en puissance*], as the scholastics say, but in order that it is an active capital [*un capital en action*], as such and [in order] that it fulfils functions, it must be actually employed in the production of a return in terms of some real wealth' (quoted in Di Rienzo 1994:278-9). The notion of potential capital is further developed in ms. 2493:137, where Morellet makes an observation 'which has escaped economic writers. Values taken out of circulation, like foodstuffs [*denrées*], money put in reserve [*enmagasinées*] [or] converted [*en vaisselle* ?], diamonds and other effects, do not thereby lose all influence on exchange value, because those items of wealth which remain as pledges, as securities, as mortgages, make the part which remains in circulation move with much greater ease everywhere that industry and agriculture can employ it usefully. A merchant who has one hundred thousand ecus of funds and fifteen thousand francs in reserve [*de vaisselle*] will always more easily find funds which he needs for an enterprise of trade than the one who only has one hundred thousand ecus of money'. For similar ideas on 'potential capital' see Marx (1885, II, 83) who uses the terms *latentes Geldkapital*, *potentielles* and *virtuelles capital*.

by most commentators as the more or less straightforwardly physiocratic part of the text.<sup>33</sup> In this section, entitled 'Of capitals in general, and of the revenue of money', Turgot introduces a new element into his analysis by stating:

There is another way of being rich, without labouring and without possessing lands, of which I have not yet spoken. It is necessary to explain its origin and its connection with the rest of the system of the distribution of wealth in the society which I have just outlined. This way consists in living by what is called the revenue of one's money, or on the interest drawn from money placed on loan (1766: 56).

This brief 'direction-indicator' is highly relevant for the understanding of what Turgot attempts to do in the remainder of the text (and, as will be argued in section 7.3.6, of the manner in which he goes beyond Quesnay's theory of capital). In a sense the question how money relates to 'the system of the distribution of wealth in society' is the thread which connects the more or less disjointed ideas in the later sections on circulation, the formation and employment of capitals, and the interest on money loans.

The function of money in relation to the exchange, or circulation, of commodities is discussed in the sections 30-48. As we saw in section 4.4.1, according to Turgot, money finds its origin in earlier stages of society in the fact that one particular type of commodity, (eventually precious metals), is singled out as the common measure and 'pledge' for all other commodities exchanged in the market.<sup>34</sup> Having established that money is the commodity which fulfils these specialised functions with respect to the 'simple' circulation of commodities, Turgot proceeds, in the sections 49 and 50, to discuss its function in relation to the formation of capitals. The properties of precious metals emphasised in these sections are that of being durable, (or: of being reliable 'stores of value'), and of being capable of commanding a rental price.

Far from being unique in these respects, precious metals share these two properties with all commodities which are 'moveable wealth'. In fact, money, as precious metal, is considered to be (a small) part of the stock of moveable wealth in society. However, of all moveable wealth, precious metals are the most suitable for the purpose of accumulation.

Furniture, houses, plate, commodities in warehouses, the tools of each trade, and cattle belong to this kind of wealth. It is evident that men toiled hard to procure themselves as much as they could of this kind of wealth, before they came acquainted with money; but it is no less clear that, as soon as it was known, as soon as it was proved to be the most changeable of all commodities, and the easiest

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33 Different interpretations concerning the structure of the *Reflections* are given for example by Cartelier (1981:121), Groenewegen (1983a:587-8), Morilhat (1988:126-7) and Meyssonier (1989:326-9), but all agree that section 29 introduces a new part of the text.

34 According to Schumpeter (1954:249) these sections '[...] contain a theory of barter, price, and money that, so far as it goes, is almost faultless, and barring explicit formulation of the marginal principle, within measurable distance of that of Böhm-Bawerk'. One may as well say that the theory of money anticipates Marx, 'barring the notion of socially necessary labour time'. In fact, as was argued in sections 2.3.3.1 and 4.4.1 Turgot's (and Morellet's) theory of commodity money has a formal character in the sense that it is not directly linked to a specific value theory. Cf. above ch. 4 note 74.

to keep without trouble, it could not fail to be sought after by whoever wished to accumulate (1766: 65).

A very similar opinion is expressed by Morellet, who remarks:

[...] although money is only a very little part of capitals, since it is the means and principal instrument of the formation of capitals of all kinds, it becomes through this a very active principle in political economy. As soon as precious metals have entered trade and become exchangeable against all types of substances, they become, because they are easy to preserve, to transport etc., the principal object of reserves of whomever was capable of saving a part of the values which he received, [...] (Morellet 1769:207-08).<sup>35</sup>

The idea expressed in these passages is that money, in addition to being the 'measure' and 'pledge' in exchange, also functions as capital. Money-capital is the kind of moveable wealth which, again owing to its physical properties, is the 'means and principal instrument of the formation of capitals of all kinds'.<sup>36</sup>

If money indeed assists in the formation of capitals *of all kinds*, the question may be asked how this function of money relates to the formation of 'idle' and 'active' capitals respectively? Turgot's answer to this question is that precious metals assist the amassing of values for each of the three above mentioned purposes. That is, precious metals are used to create hoards, for luxurious consumption, and they assist in the financing of the advances of enterprises. However, in keeping with his opinion that it is the latter motive for accumulation which predominates in a commercial society, Turgot strongly emphasises the latter function of money-capital.

The use of precious metals for luxurious consumption, *i.e.*, as 'jewels and plate', is recognised but hardly stressed.<sup>37</sup> The existence of money-hoards, in turn, is briefly discussed. Turgot seems to suggest that in earlier stages of society, the *hoarding* of money is a more important phenomenon than in a developed commercial economy:

Let us now go back to the time after the introduction of money. The ease with which it can be accumulated made it the most sought after form of moveable wealth, and furnishes the means of accumulation unceasingly by the simple means of thrift. [...] The timid Miser who accumulates money with the objective of preventing worries about lacking the necessities of life in an uncertain future, keeps his money in a hoard (1766: 68-9).

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35 Cf. Turgot *Reflections* section 101: 'money is the immediate object of saving, and is, so to speak, the first material of capitals when they are being formed [...]'.  
36 Perhaps it can be said that money is seen not only as the *general* measure of value and *general* pledge of value (see section 4.4.1), but also as the *general* form of capital, both in the context of the accumulation (see this section) and the movement of capital between employments (see next section).  
37 It should be recalled that the earlier use of the commodities which are to become money as jewels, is stressed by Turgot and Morellet to explain why in early stages of society people ascribed use value to these monies-to-be (shells, pieces of precious metal). 'All the metals, as they have been, discovered, have been admitted into exchange, on account of their real usefulness: their splendour has caused them to be sought after, to serve as ornaments [...] But these substances could not be brought into Commerce without almost immediately becoming a universal Money' (*Reflections* section 42). One may say that the use of precious metals as durable consumption goods, or 'as use values', is seen as their original use.

However, it is immediately added that instead of simply hoarding money, 'one can draw a far greater advantage' of one's capital by giving one of the five lucrative employments to it.<sup>38</sup> In a well functioning commercial economy, it is not the 'idle' uses of precious metals, but the function which they fulfil in the formation of active capitals that predominates.

In this use, precious metals are not hoarded or used for decorative purposes, but rather remain in constant motion. This motion is what Turgot calls '[t]he true idea of the circulation of money' (title of section 68).

[...] the cultivation of estates, manufactures of all kinds, and all branches of trade, depend upon the mass of capitals, or of moveable, accumulated wealth, which, having been first advanced by the Entrepreneurs in each of the different classes of work, must return to them again with a steady profit; that is, the capital to be again invested and advanced in the continuation of the same enterprises, and the profits for the more or less comfortable living of the Entrepreneurs. It is this advance and this continual return which constitutes *what ought to be called the circulation of money*; this useful and fruitful circulation, which gives life to all the labour of society, which maintains all the movement and life of the body politic, and which is correctly compared to the circulation of the blood in the animal body (1766:75; emphasis in the original).<sup>39</sup>

The kind of circulation in which money is understood to be engaged in this passage (its circulation as capital), should be clearly distinguished from the circulation of money which Turgot discusses in the sections 30-48 (its circulation as means of exchange). The most important reason to stress this distinction is that when money is considered as medium of exchange in market transactions, it intermediates in the exchange of one commodity for another of *equal value*. When, on the other hand, money is considered as a capital, it intermediates in the reconstitution of advances through the cycle advances-production-sale. In this latter (reproductive) circulation money assists in the recouping, through the sale of the produce, of a sum of values which is typically *in excess of* the value of the advances made earlier.<sup>40</sup> In other words, only when entering in this 'true circulation' money is engaged in the appropriation by the owners of capitals of some of the surplus produced

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38 The importance of money hoards is also strongly played down by Morellet. In ms. 2520:209, he argues that one can assume that '[...] every accumulation of wealth is only done with the aim of employing it [,] that generally speaking the person who does not consume himself, tries through his savings to increase his capital. [...] the kind of man who lives from a hoard by taking from it only a daily and moderate subsistence is infinitely less common. Every man who has capitals in the form of commodities thus tries to employ them in enterprises or which is the same thing [tries] to sell them to those who want to employ them in that manner'. For a discussion of the significance of this view in relation to Quesnay's disquiet about the formation of money hoards see section 7.3.6.

39 For the significance of the money-blood analogy in this and other places, see note 99 below.

40 The idea that money assists in the exchange of equal values and of unequal values at the same time, is a fundamental notion of classical economic thought. It is not unsound but admittedly a little hard to grasp. This is mainly the case, because the exchange of equal values and unequal values is *literally* occurring at the same time, in the same act of exchange. The two different conclusions (equal-unequal exchange) arise from two different points of view taken on this same act. If one compares the exchange value of two commodities exchanged then both are by definition equal. If, however, the two contractants each compare the exchange value obtained for their produce with the value of the inputs required to produce it, the former typically exceeds the latter. In a word, they have acquired some of the social surplus which 'originates' in production, and is 'realised' in exchange.

in the economy, and in the further accumulation of active capitals. In a word, on the one hand, money in its function of medium of exchange facilitates the exchange of commodities, on the other hand, in its function of (active) capital, money facilitates the reproduction and accumulation of commodities.<sup>41</sup>

In fact, almost all savings are made only in money; it is in money that the revenues return to the proprietors, that the advances and profits return to the entrepreneurs of every kind; it is therefore from money that they save, and the annual increase in capitals takes place in money; but all the entrepreneurs make no other use of it than to convert it immediately into the different kinds of effects on which their enterprises depend; thus, this money returns to the circulation, and the greater part of capitals exist only in effects of different kinds (1766:95).

In a sense therefore it can be said that 'money is the principal means of begetting money' (1766: 76).<sup>42</sup> However, this phrase can easily be misunderstood. Turgot does not mean that money, *i.e.*, the substance gold or silver, is 'productive' in any literal or concrete sense. Turgot clarifies:

Money considered as a physical substance, as a mass of metal, does not produce anything; but money employed in advances in enterprises of agriculture, manufacture, commerce, procures a definite profit; [alternatively] with money an estate can be purchased, and a revenue procured thereby [...] 1766:78-9).<sup>43</sup>

Morellet comes up with an even clearer formulation of the view that capital is 'sterile' as long as it is kept in the form of precious metals, and only becomes 'productive' when exchanged for inputs to some enterprise. In one remarkable passage he argues that

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41 These two distinct functions of money are addressed in the sections 48 and 69 respectively. Significantly, the former section concludes the part in which the circulation of money as means of payment is discussed, while the latter follows directly upon the discussion of the circulation of money as capital. In both sections, the importance of the introduction of money for the social division of labour is addressed. However, in the first section the beneficial effect on this phenomenon of the use of money as intermediary in exchange is explained (see the quotation in section 4.4.1). In contrast, the later section deals with the influence on the division of labour of the use of money-capital: 'It is hardly necessary to remark that enterprises of all kinds, [...] must have been very limited before the introduction of gold and silver in trade; since it was almost impossible to accumulate large capitals, and even more difficult to multiply and divide payments as much as is necessary to facilitate and increase the exchanges to the extent which a spirited commerce and circulation require. [...] As to crafts of all kinds, they must necessarily have languished greatly before the introduction of money; they were limited to the rudest type of occupation, for which the Proprietors furnished the advances by feeding the Workmen and by providing them with materials, or which they caused to be carried on at home by their Domestics.' In other words, money in its function of currency removes the inconvenience of having to exchange *in natura* one's excess produce for a part of the excess produces which one needs of other traders. One can accept money the general 'instrument of acquisition'. On the other hand, money in its function of capital removes the inconvenience of having to accumulate-advance-acumulate the heterogeneous collection of inputs necessary for some enterprise. One can accept money, the general form of capital.

42 For Groenewegen's explanation of why this phrase is missing in older editions see n. 46 on the same page.

43 See also the 'Paper on Lending at Interest' (1770a:155) where money which is not used as advance in production is called 'sterile'. Similarly, the statement that 'money is the principal means of begetting money', in section 70, is to be read in the context of the sentence above it where it is explained that this is so 'since with money we can furnish means for cultivation, establish manufactures, and set up trade [...]'.



[...] money itself only operates as a capital which produces interest, in so far as it is converted into some other substance of which the application or the consumption serves to some enterprise. If money is employed in an agricultural enterprise, it is converted into all the substances which form the mass of the advances of agriculture, like animals, utensils, manure, seeds, buildings, materials of all sorts. If one employs it in an industrial enterprise, it changes into all the substances which form the advances of a manufacturer, like workshops, primary materials, anticipated consumption of the workers, etc. It is only through this transmutation that it [*i.e.*, a money capital] becomes fit to give a product to its owner [the capitalist]; because it is only through this that it can give a product to the Entrepreneur who makes use of it in his enterprise (Morellet 1769:206-7).<sup>44</sup>

This admittedly curious view that the appropriation of some of the surplus by the owner of a capital can be seen as part of a process of 'transmutation' of commodities from one physical form into others, is of course not an alchemistic formula. Rather, it reveals how Morellet, even more than Turgot, attempts to fit money into the phenomenal picture of reproduction. This is remarkable in the light of the fact that few later economic theorists evidence the same kind of interest.<sup>45</sup>

By the 'phenomenal picture' the following is meant. Somehow, through the process of combining-and-changing-the-physical-form-of-advances (*i.e.* production<sup>46</sup>), entrepreneurs obtain produce which, when sold, allow them to buy anew a quantity of advances which is typically larger than that of the previous round. The selling of the produce and the buying of the new advances goes via a process of 'transmutation' (from produce into precious metals, and from precious metals into advances). In this process the owners of capitals acquire a part of the surplus.

It is important to observe that the 'owners of capitals' are not necessarily the entrepreneurs, *i.e.* the people actually running enterprises. If the capital advanced is borrowed, then it is the lender who will obtain that part of the surplus which is the 'pure' return on capital. For this reason we should next consider loan-capital.

### 7.3.3 The returns to and movement of capitals

Turgot introduces the lending of money only explicitly into his analysis in section 70 of the *Reflections*. There the existence of this practice is explained by the fact that it often occurs that some people want to undertake an enterprise but do not possess the required money capital, while others have the required capital but do not want to undertake anything with it themselves.

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44 Cf. ms. 2522:7. Note that this passage also strongly suggests that interest is paid 'out of' profits. See below section 7.3.4.

45 A very notable exception are Marx's painstaking discussions of exchange (C-M-C) and production (M-C-M').

46 As was argued in chapter 3, it is questionable whether Turgot would have found such a modern definition of production satisfactory. He distinguishes, conform to the physiocratic doctrine, between the process of production in agriculture and in industry, arguing that only the former is 'productive', *i.e.*, yields a surplus. Morellet's views on this point are even less clear, because he appears to have frequently changed his mind on the issue. Indeed, only Isnard's notion of production may be quite accurately be described in this manner.

[...] those who, with their industry and love of labour, have no capitals, or do not have sufficient for the enterprise they wish to embark on, have no difficulty in deciding to give up to the owners of such capital or money who are willing to trust it to them, a portion of the profits they expect to receive over and above the return of their advances (Turgot 1766: 76).

While the person who actually employs capital may of course be the same as the person who owns it, in the market for money-capital the 'entrepreneur' and the 'capitalist' are two distinct parties to a loan contract.<sup>47</sup>

In analysing the loan market, Turgot formally defines the object traded in this market as well as the price paid for it, in the following manner:

In a loan on interest, the object of the valuation is the use of a certain quantity of value during a certain time. [...] it is [...] a quantity of values which is compared with a definite portion of itself, which becomes the price of the use of this quantity for a certain time (1766:83).<sup>48</sup>

This rather brilliant definition of the 'rental price' of money, is contrasted with its 'own price'. As we saw in section 4.4.1, according to Turgot (and to Le Trosne, Morellet and Isnard), the 'own price' of money, which is associated with its function as means of payment, is the amount 'of

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47 Compare section 65, where Turgot uses the indiscriminate phrase 'Entrepreneurs or Capitalists' with the use of the term Capitalist in the title of section 70. Morellet's manuscripts yield some intriguing confirmation of the fact that the differentiation between the functions of 'entrepreneur' and 'capitalist' is actually a theoretical issue which occupies these writers. In one passage (ms. 2512:225) one can witness economic theorising in motion. In a sentence which originally read 'one can thus distinguish in every cultivation three principal objects [*i.e.*, income shares]', 'three' is crossed out and replaced by 'four'. The significance of this alteration becomes clear in the next sentence, which reads: '[...] one has to consider in cultivation the rent of the land, the interest on the advances, [and] the price of the attention of the one who employs them [*i.e.* the advances]. Of those three kinds of profit the first belongs to the proprietor, the second to the entrepreneur of cultivation considered as capitalist, the third to the cultivator or director [*chef*], to the cultivator considered as worker, [and] the fourth to the subordinate worker'. The reason why three kinds of 'profit', or returns are divided into four kinds of remuneration is because Morellet distinguishes between the functions of the entrepreneur 'as capitalist' and 'as *chef*' (the qualifications with respect to the second and third item are added later). The passage reveals something about the analytical effort of trying to classify income shares in a functional manner: with respect to the income of the entrepreneur, one should distinguish between the remuneration which is due to the advancing of capital and to the running of the enterprise. In the loan market, of course, this differentiation between 'capitalist' and 'entrepreneur' is not merely functional, but actual. Cf. Isnard's use of the terms 'entrepreneur' and 'capitalist' (see section 7.4.1 below).

48 In ms. 2522:15, Morellet develops this same idea with remarkable clarity: 'The interest of a capital is always an aliquot part of the capital itself. if the capital consists of money [,] the interest consists of money [,] if the capital consists of a mass of foodstuffs [,] the interest consists of foodstuffs - this is so at least if one wants to consider capital and interest in order to form a clear idea of the two and particularly of the relation between the one and the other [,] otherwise one will compare heterogeneous quantities and things which can therefore not be compared'. One would be excused for momentarily forgetting that this is a reflection of an economist at the end of the 18th century, and not of one in the middle of the 20th. However, Morellet continues not by discussing the theoretical difficulties caused by the heterogeneity of capital, but by arguing that this idea allows one to distinguish between the own price and the rental price of money: 'now capital and interest being thus paid in terms of the same thing or substance [,] one sees easily that when there is more money in the world it is very much a reason why in the exchange of money with all the other commodities [*choses venales*] one gives more money for the same quantity of all the other commodities [,] but not that one gives a lesser quantity of money for the same quantity of loan-money.'

commodities of every kind', for which it can be exchanged (1766:82). In contrast, the 'rental price' of money is associated with the circulation of money as capital.<sup>49</sup>

The generality of Turgot's formulation of the rental price of capital as the price of 'the use of a certain quantity of value during a certain time' is probably intentional. That is to say, the formulation can be applied not only to money, but to all moveable wealth which by definition possesses the capacity to be 'employed in such a manner, as to procure profits which would more than make up for their deterioration', and to land.

It is this conceptualisation which underlies Turgot's famous theory of the movement of capitals. As is well-known, he emphasises what he perceives to be the 'fluidity' of capital by using the metaphor of communicating liquids:

The different uses of capital [have] a reciprocal influence on each other, [...] establishing a kind of equilibrium amongst themselves, like that between two liquids of unequal gravity, which come into contact with each other at the base of an inverted siphon, of which they fill the two branches; [...] (1766:87).

This analogy is taken by some commentators to constitute evidence for the influence which the physical sciences, and especially popular scientific experiments, exercised on economic theorists of the period.<sup>50</sup> In Turgot's case, it is indeed relevant to note that he not only shows himself prone to well-chosen analogies from the natural and medical sciences,<sup>51</sup> but that he was relatively well-instructed in and impressed by Newtonian natural philosophy.<sup>52</sup>

However, whatever the exact influence of the physical sciences on Turgot's economic thinking may have been, it should not obscure the fact that the application of the analogy of the behaviour of fluids to the theory of capital is not as obvious as it may appear. Natural philosophy hardly provides the idea that for instance livestock, seed, buildings, tools and even land may be perceived to be 'fluid' in some sense. For this perception, Turgot's careful, and highly original, attention to the particular physical forms of capital goods and their relation to the general form of

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49 The sections 77 to 79 of the Reflections are devoted in full to the distinction between the 'two ways of valuing money'. For the origin of this distinction in the work of Cantillon and Hume see below section 7.3.3.6.

50 See e.g. Ingrao and Israel (1990:33-7,46), Perrot (1992:237-55).

51 Other significant physical analogies are the one between the phenomenon of increasing and diminishing returns in agriculture and the resistance of a spring (see section 8.3.3.2 below), and, the much more common place analogy between the circulation of money in the state and the circulation of blood in the animal body (see above section 7.3.2).

52 As a young man Turgot was taught natural philosophy by Sigorgne at the *collège du Plessis*. A few years later Sigorgne became, as Morellet (1821:13) expresses it, the first person to teach at a French university '[...] the right [*i.e.* Newtonian] astronomy, which succeeded the reverie of Cartesianism and its little whirls'. Whether Turgot grasped the full mathematical detail of Newton's physics can perhaps be doubted, since Morellet notes that despite the former's keen interest he never had a real talent for mathematics (*ibid.*). However, Turgot's high regard for Newton from his student days onwards is evident (see e.g. the praise in his early works in Meek 1973a:58-9, 88, 95-6).

money-capital appears to play an important role. The manner in which in the *Reflections* the idea is evoked that capitals in different employments are 'communicating', is by a systematic insistence that any given *richesses mobilières* and *richesses foncières* are equal, in terms of their market value, to a sum of money.

In section 58, Turgot asserts that in the case of landed estates:

[...] any sum whatsoever of value is equivalent to a landed estate producing a revenue equal to a definite fraction of this sum<sup>53</sup>: it is perfectly the same whether this sum of value, or this capital consists of a mass of metal, or of any other matter, since money represents every kind of value, just as every kind of value represents money. In the first place, therefore, the Owner of a *capital* can use it to purchase lands, but he has other possibilities as well (1766: 69).

The 'other possibilities' are dealt with in subsequent sections, and eventually recapitulated in section 83, which reads:

I have reckoned five different methods of employing capitals, or of profitably investing them.

The first is to buy a landed estate, which brings in a definite revenue.

The second is to invest money in agricultural enterprises by taking a lease of land, the produce of which ought to yield, over and above the price of the lease, the interest on the advances, and the price of the labour of the man who devotes both his wealth and his toil to its cultivation.

The third is to invest a capital in industrial and manufacturing enterprises.

The fourth is to invest it in commercial enterprises.

And the fifth method is to lend it to those who need it, in return for an annual interest (1766: 85).

The idea that '[...] the annual product which can be drawn from capitals invested in these different employments, are influenced by each other, and are all related to the current rate of the interest of money' is elaborated in the sections 84-90. There the principal point is that the rates of return on capital in different employments do not exactly tend to become equal, since there are differences between the employments with respect to risk and effort involved to procure a return.

The rate of return on capital used to purchase land, or the 'rate of rent',<sup>54</sup> is bound to be a little lower than the rate of interest: while, on the one hand, the landowner and the capitalist share the fortunate condition of not having to labour and of being able to enjoy their returns 'peaceably and freely', on the other hand, since the possession of land 'is more secure to all kinds of accidents' than the possession of an IOU, the lender requires a "risk premium" (sections 85-6). For the same reasons, the rate of profit is in turn normally higher than the interest rate.

[...] besides the interest of the capital, the [agricultural, industrial, or commercial] entrepreneur should draw every year a profit to recompense him for his care, his labour, his talents and his risks, and to furnish him in addition that with which he may replace the annual wear and tear of his advances, which he is obliged from

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53 Cf. Turgot's definition of the interest rate above.

54 Turgot does not use the actual term '*taux du revenu*', but it is a very good description of his view of rent as a value 'equal to a definite fraction' of the value of land. For an interesting use of the term 'rate of rent' in later physiocratic literature see section 8.4.

the very first to convert into effects which are liable to deterioration and which are, moreover, exposed to all kinds of accidents (1766: 86).

The items named in this passage, which should be covered for an enterprise to remain viable, are also identified by Turgot earlier in the text, in section 62. In both cases, what may be called the 'pure' return on capital, or 'the revenue [entrepreneurs] would be able to acquire with their capital without any labour' (1766:70), is clearly distinguished from the other items the 'care, labour, talents and risk' of the entrepreneur and the 'wear and tear of his advances'. According to Turgot, while the latter factors are those that account for the fact that the 'different uses of the capitals, produce,[...], very unequal products', there is a strong implication that a *uniform* rate tends to be established with respect to the 'pure' return on capital.<sup>55</sup> This uniformity is explained by the idea of the movement of capitals.

In short, as soon as the profits resulting from an employment of money, whatever it may be, increase or diminish, capitals turn in that direction and withdraw from other employments, or withdraw and turn towards other employments; and this necessarily alters in each of these employments, the relation between the capital and the annual product (1766:87).

Again, it is the formulation of this seminal idea which is significant. Turgot suggests that when considering the movement of capitals, one can abstract from the physical form which they adopt, be it land, grain or tools. One can consider it as 'an employment of money, whatever it may be', and the return which matters is 'the relation between the capital and the annual product'.<sup>56</sup>

It seems safe to say that neither natural philosophy, nor for that matter empirical observation of the French economy, will have readily suggested to Turgot the idea of the movement of capitals between employments and equalization of returns. For this reason the issue of the type of conceptualisation which Turgot uses to express this idea (the notion of 'capitals in general'<sup>57</sup>) is important. While he will have observed the commercial practices of his time, it undoubtedly required a substantial analytical effort to develop the idea that the returns in the different employments of capitals 'influence each other' and to theorise the implications of this presumed mutual influence.<sup>58</sup>

Turgot emphasises the function of the rate of interest (or the return on money-capital) as a kind of general measure for the viability of enterprises. This function is expressed in his famous

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55 This is not a controversial view. See e.g. Faccarello (1992:266), and Aspromourgos (1996:156) who concludes that 'Turgot [...] grasped the role of competition in equalizing rates of return on capital net of differential risk and returns for entrepreneurship or superintendence'.

56 Cf. note 48. As we will see in section 7.4.2, Isnard calls this same ratio *l'intérêt général des richesses*, a concept which leads him to the problem of the valuation of capital goods.

57 Title of section 29 of the *Reflections*.

58 It is probably impossible to verify whether a tendency towards a uniform rate of profit was actually observable in the French economy in Turgot's time. However, it is likely that this phenomenon was even less apparent then as an empirical fact than it is in modern capitalist economies. Cf. note 3 above.

comparison of the rate of interest to a watermark, and the viable enterprises to islands rising above it.

The price of interest may be looked upon as a kind of level, beneath which all labour, agriculture, industry and commerce come to an end. It is like a Sea spread over a vast area; the summits of the mounts rise above the waters, and form fertile and cultivated islands. If this sea happens to flow back, in proportion to as it descends, first the slopes, then the plains and valleys appear, and are covered with productions of every kind (1766:88).

Even though Turgot does not say this in so many words, it seems quite clear that the interest rate is understood to function as a minimum level for the rate of return on capital that enterprises should yield, corresponding to the 'pure' return, with the 'total' rate of return being normally higher, to allow for remuneration of entrepreneurial labour and risk.

The view that the specific approach of Turgot to the analysis of capital has an important bearing on the perception of the movement of capitals, is confirmed in Morellet's writings in which so many other aspects of the former's theory of capital can be found. Morellet's published economic work is a little disappointing in this respect though. A probable reason for this is that most of these publications are not primarily of a theoretical nature. Nevertheless, in his polemical *Refutation of Galiani* the notion of the movement of capital is used as an argument in favour of non-intervention in the prices of grain. Morellet explicitly argues that if prices of grain are kept low by the authorities, agricultural profits will be affected resulting in the migration of capital to other employments:

Only the profits of an enterprise can persuade the Capitalists to place their funds in it [*i.e.* in agriculture], and only the freedom of sale of the products can assure the profits to agricultural entrepreneurs (Morellet 1770 [1774]:31-2).

In the manuscripts the idea of the movement of capitals to the most profitable employments figures more prominently. A very precise application of the idea by Morellet is his consideration of the question how a higher rate of profit feeds through the economy when new, more profitable, types of enterprises are made possible.<sup>59</sup> When suddenly new opportunities for the employment of capital arise then

[...] the existing capitals in a country, not being sufficient for all new enterprises will be applied to those which give the greatest profits[,] a part of those which were employed in other enterprises will be withdrawn from them in order to be placed in new ones which are more profitable. In the old ones [,] competition will diminish. the market will be less abundantly supplied with several types of merchandises [,] [T]heir prices will necessarily increase more or less and will yield a profit to those [entrepreneurs] who have maintained their trade and who could for that reason [*i.e.* , the higher profitability] borrow at a higher interest (Morellet Ms. 2520:217).

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<sup>59</sup> He specifies that 'among the events which can thus open up a new career for enterprises and capitals, one can count the acquisition of new territories, the establishment of a new kind of trade, or of industry etc.' (Ms. 2520:218). In contrast, the only circumstance which Turgot names that would raise the rate of profit is '[...] when suddenly a very great number of proprietors of estates wish to sell them [...]' (*Reflections* section 88).

What is interesting about this passage is the precision with which the movement of capital is related to the competition between entrepreneurs and the changes of prices resulting from this movement. The 'easing' of competition in existing activities, as a result of the movement of a part of the present stock of capital towards new lucrative employments, will raise the 'pure' return even in old enterprises to the level obtained in new enterprises.

While the perception of the movement of capitals and of the function of the rate of interest are developed with remarkable clarity by Turgot and Morellet, it would be wrong to neglect the fact that some other aspects of their theory are more problematical. The discussion so far suggests something of a reciprocal relation between the rates of profit and interest. On the one hand, the interest rate is presented by Turgot as the 'arbiter' for the rate of 'pure' profit which an enterprise should yield. On the other hand, he expresses the opinion that '[...] interest of money lent is *taken from* the revenue of lands, or from the profits of agricultural, industrial, and commercial enterprises [...]' (1766:93; emphasis added). The latter view is clearly related to the general idea, encountered in the previous section, that a money-capital can only yield a return if it is employed 'actively', *i.e.*, in some enterprise, (or if it is invested in a landed estate). In this sense, one can therefore say that interest, or the return on money loans, is seen, to use Adam Smith's expression, as a 'derivative revenue' (Smith 1776, I, vi,50). One is tempted to conclude from this that there is a causal link in Turgot's theory running from the rate of profit to the rate of interest.

However, it has to be noted that Turgot's views with respect to this causal link are quite ambivalent. Two explanations can be suggested. In the first place, Turgot argues that the interest rate is determined by the 'relative abundance' of active capitals in the economy, an opinion that to some extent obscures the relation with the rate of profit. Second, in one place in the *Reflections*, Turgot explicitly dissociates the determination of the interest rate from the rate of profit, and appears to argue that the former is solely the result of the subjective estimations of borrowers and lenders of the price of the 'use of a certain quantity of money during a certain time'. Both ideas merit closer examination.

#### **7.3.4. The abundance of capital**

As we saw in section 7.3.1, Turgot (and equally Morellet) perceives the stock of moveable wealth in society as the result of a gradual process of accumulation out of the annual net product. In a commercial society a large part of this stock is 'actively' re-employed, *i.e.*, used in the generation of the total annual produce. The annual product is in turn divided into the 'reproductive product' and the 'net product', the latter part giving rise to the further accumulation of moveable wealth. One may

say that the 'supply of' (that is, the stock of 'active' capitals) and 'demand for' (that is, actual employment of) capital goods are understood as interrelated magnitudes: the former is purposefully accumulated to be employed in the latter manner.<sup>60</sup>

Of course it is not necessarily the case that all savings are made by the same people who employ the savings, *i.e.*, the entrepreneurs. It is in the loan market that the savings of people who do not want to employ them themselves (capitalists) are confronted with demand for capital of the entrepreneurs (cf. section 7.3.3).<sup>61</sup> Turgot insists:

It is essential that money is considered as a genuine commodity whose price depends on agreement and varies, like that of all commodities, according to the ratio between offer and the demand. Interest being the price of loanable funds, it rises when there are more borrowers than lenders; it falls, on the contrary, when there is more money offered than is demanded for borrowing [...](1770a:153).<sup>62</sup>

The meaning of the phrase 'when there is more money offered' is further explained by Turgot. An increase in loanable funds, reflects that more capital is accumulated to give a return.

[...] the rate of interest is relative to the quantity of values accumulated and laid by to form capitals. It does not matter whether these values are in metal or other effects, provided these effects are easily convertible into money [...] It is not therefore the quantity of silver existing as metal which causes the rate of interest to rise or fall, or which brings more money into the market to be lent; it is simply the sum of capitals to be found in commerce, that is to say, the current sum of moveable values of every kind, accumulated, saved gradually out of the revenues and profits, to be employed by the owner to procure himself new profits and new revenues. It is these accumulated savings which are offered to the borrowers, and the more there are of them, the lower the interest of money will be, at least if the number of borrowers is not augmented in proportion (1766:84).<sup>63</sup>

The question which this perception of the relation between accumulation and interest elicits, is what explains in the long term the rate of interest in society? Turgot clearly believes that

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60 The idea that the capital stock adapts over the cycles of production and accumulation to the requirements of reproduction is very much a classical perception, differing radically from neoclassical theories of capital in which typically the 'supply of capital' is taken to be exogenously given.

61 This separation is facilitated by the fact that money (precious metals) are 'the means and principal instrument of the formation of capitals of all kinds'. The existence of money makes it easier, in *practical* terms, to accumulate a readily available capital, without having to hold it in a readily applicable form (seed, tools etc.). Of course, in terms of *theory*, the existence of money-capital complicates matters. In particular, it introduces the possibilities that owners of money-capital (capitalists) do not always make their savings available, or save more than can be profitably employed by entrepreneurs. The former possibility is played down by Turgot (in contrast to Quesnay) see section 7.3.6. The latter possibility is emphasised by Turgot (see below).

62 Cf. 1766 section 72: The (rental) price of money is '[...] like the price of every commodity, is determined by the chaffering of seller and buyer; by the balance between the offer and the demand'. Cf. section 76.

63 The idea that the rate of interest does not depend on the amount of money-capital, but on the amount of 'active' capitals generally, is repeated in Morellet's *Prospectus* (1769:207): '[...] the interest on money is not the interest on money alone, it is the interest on capitals [*capitaux*] of all kinds, which means that the rate of interest depends much more on the greater or smaller quantity of capitals, than on the greater or smaller quantity of money.' Cf. ms. 2520: 208; ms. 2522:14-15. Isnard holds the same opinion: 'It is not precisely the abundance of money which diminishes the rate of interest, it is the abundance of capitals destined for production, it is the multiplicity of savings, in favour of production, made on the wealth suited to consumption' (1781 I,34). See section 7.4.1. below.



historically with the progress of accumulation the interest rate tends to fall. As we saw, Turgot observes '[...] the interest of money has been constantly diminishing in Europe for several centuries' (1766:85). It has to be said that Turgot does not really provide a clear explanation of this historical decline.

He suggests that it is caused by a 'spirit of thrift' prevailing in commercial economies. In other words, it is suggested that the decline in the rate of interest is the result of an increasing rate of accumulation of 'active' capitals, *i.e.*, wealth which is saved for investment, at the expense of hoarding and luxurious consumption. It should be noted that this shift is seen as a historical change in habits. There is no suggestion that the rate of interest influences the decision whether to hold moveable wealth in 'idle' or 'active' forms.<sup>64</sup> Rather the level of the interest rate is seen as the result of this change in habit.

However, it is quite difficult to see how an increase in the 'spirit of thrift' would by itself over time lead to a fall in the rate of interest in the economy. That is to say, since money-capitals are purposely accumulated to be lent and to be employed in enterprises (and 'transmuted' into live-stock, tools, raw materials etc.), why would the return on these capital goods have to fall if their quantity increases? It seems that the most logical explanation of the fall in the interest rate in the long run for Turgot to come up with, would have been to say that it is the result of the fall in the rate of profits (considering the fact that he understands the former to be paid out of the latter). However, he does not go much further than asserting that a lower rate of interest makes it possible for less profitable enterprises to be undertaken.<sup>65</sup> He does not even say in so many words, like

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64 Still, one of the arguments which Turgot uses in favour of the repeal of France's usury laws in the 'Paper on Lending at Interest' is that this measure would raise the interest rate which would have the beneficial effect of furthering the shift from 'idle' accumulation to accumulation of 'active' funds. '[...] a very large quantity of money which lies idle in the chests, would enter the circulation when prejudice [against usury], no longer consolidated by the authority of law, would slowly give way to reason. Thrift would become all the stronger in accumulating capitals, when the money trade [*i.e.*, lending] is an outlet which is always open to money (Turgot 1770a:162). In this passage it is the legalisation of freely negotiated interest rates on loans (yielding higher or at least more secure returns to lenders) which is seen to instill more 'thrift' in society. This opinion is shared by Morellet and Isnard (see above note 140). However, it goes a little far to see an anticipation of Keynes' theory of interest and investment on this point, especially since these writers do not see hoarding as a rational decision.

65 See (1766:88) and (1767a:116): 'The effect of [...] accumulation is to lower the interest on loan money; to increase the exchange value of landed property; to diminish the necessary returns of the entrepreneurs in all industry and the costs of all enterprises; to make profitable, and consequently possible, enterprises which were not so previously; to increase proportionately the total number of enterprises and the total output'. These passages do not immediately suggest a causal relationship running from the rate of profit to the rate of interest. It is difficult to be sure on this point though. Groenewegen (1971:337) suggests that neither rate can be considered only as the cause or the effect, when he argues that 'Turgot explained the process of accumulation and the fall in the rate of profit *simultaneously*'. However, Groenewegen (1982:130) describes the relation between profit and interest as a 'causal link which goes from profit (surplus product) to accumulation and investment and then to interest'. Indeed, it may be said that the logic of Turgot's theory considered as a whole suggests the latter interpretation. However, it is hard to find a clear textual evidence for it.

Adam Smith, that over time with the expansion of the economy the rate of profit tends to fall.<sup>66</sup>

Perhaps it can be said that Turgot more or less confines himself to stating what he sees as an empirical fact, namely that in general the wealthier and more commercial economies of Europe, and the more advanced among them in particular, like the United Provinces, tend to have lower rates of interest.<sup>67</sup> It is also possible that Turgot attempts to (uncritically) incorporate in his theory of capital one of Hume's views on interest. This impression one gets from his remark, in section 89 of the *Reflections* that '[...] the current interest on money placed on loan may be considered as a kind of thermometer of the scarcity of capitals in a Nation, and of the extent of the enterprises on which she may embark [...]'.<sup>68</sup>

Some passages in Morellet's manuscripts throw an interesting light on Turgot's views on the relation between the rates of profit and interest. On the one hand, he criticises Turgot for not developing this relation more clearly.<sup>69</sup> Perhaps more than Turgot, he stresses that interest on money

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66 On Smith's ideas about the falling rate of profit see O'Donnell (1990:96-99).

67 The low rate of interest in the Dutch republic is often noted in the economic literature of the 18th century. In contrast to most commentators who see it as the result of the thrift of the Dutch and the lack of usury laws, Isaac de Pinto, a rich financier from Amsterdam, diagnoses the low interest rate as caused by a lack of investment opportunities in his *Traité de la Circulation et du Crédit* (1771). De Pinto therefore recommends larger government expenditures. See de Vries and van der Woude (1995:158). Isnard cites de Pinto several times.

68 Cf. Hume's statement cited below in section 7.3.6.

69 In manuscript 2520, Morellet directly criticises the perceived failure of Turgot to specify the causal link from the rate of profit to the rate of interest. He insists that 'the greater or smaller profits of enterprises' is one of the determinants of the rate of interest (*ibid.*206) and that 'I find myself here at odds with the author of the excellent little treatise of the formation and the distribution of wealth, the late mr. Turgot' (*ibid.*211). (The words '*feu mr. Turgot*' indicate that these pages were written after 1781). In part, his criticism is based on Turgot's dissociation of the profit and interest to be discussed in the next section. Morellet quotes section 72 of the *Reflections* in full (*ibid.*212; cf. note 75 below), and criticises it in the following passage, which deserves to be cited at length: 'I believe to be able to contest those reflections [...] the different motives for borrowing which are listed [in section 72 of the *Reflections*] are less common and can only influence the rate of loans a little. loans are commonly made for enterprises of agriculture of mining fishing manufacturing trade etc. and these kind of loans [...] being the most common [...] limit and rule all the others [...]

if someone borrows in order to pay debts it does not give him any profit [...] thus if all loans would have that motive [...] the profit which a loan capital can have does not enter into the determination of the rate of interest [...] but it should be recognised that this is a particular case and not the common circumstance.

from the fact that the lender is not bothered about the use which the borrower will make of his money it does not follow that that use and the greater or smaller advantage which the borrower will draw from it will not strongly influence the rate of interest because the more competitors there will be to obtain it and the more the lender will demand for giving it: the lender [...] being able to employ his money in some kind of enterprise [...] does only give up being an entrepreneur in order to save pains and cares but this saving of pains only has a certain value for him.

for example it is not worth double or triple of the interest which he can draw from his money so that if he can gain 15 percent by doing the enterprise himself he will not give his money to an entrepreneur at 5 percent. the profit which one can draw from the employment of capitals put therefore a limit upon the the price of the interest and is at the same time one of the causes which determine it.

the objection that the price of money is determined by the balance between offer and demand can be admitted. but the quantities offered and demanded are partly determined by the advantages which there are in offering and demanding. now the advantages which there are in offering and demanding money are in the first

loans is always paid out of the net returns on the advances made in enterprises.<sup>70</sup> However on the other hand, in the end Morellet also argues that the '[...] greater or lesser abundance of capitals' is the 'first cause' of the level of interest 'to which all the others can be brought back to' (ms. 2520:205).<sup>71</sup> He does not really answer the question why saved capitals would become abundant in rich societies relative to the demand for 'productive' capitals. It has to be noted that this question is not satisfactorily answered by Adam Smith's either.<sup>72</sup> In fact, few writers before Ricardo (1817 chapter 21) give an unequivocal answer to the question why the rate of profit would tend to fall with the expansion of the economy. According to Ricardo diminishing returns in agriculture are

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place the rate [*quotité*] of profit which can be made by employing capitals in some enterprise.

the rate of profit is certainly limited by the rate of profit of the enterprise. if an enterprise or in general the enterprises do only yield 6% on average it is impossible that the interest on money will be at 6% [...] but for the same reason if profit is at 12 [%] the lender will not be satisfied with the same interest which he accepts when profit is only 6 [%].

finally. the price of loans is not actually founded upon the rate of profit which an individual borrower can make with an individual capital but upon the general rate of profit [*la quotité generale des profits*] which the greatest number the mass of borrowers make with the capitals which they borrow' (Ms. 2520:213-16). Two things should be noted about the causal link from the rate of profit to the rate of interest, which Morellet posits in this passage. First, he does not presume the link to be a very narrow. Much like Turgot, he allows for a considerable differential between the two rates, due to the greater risks and efforts involved in obtaining a return in the employment of a capital in an enterprise, compared to placing it on loan. Second, he specifies that the relationship should be understood to exist between the *general* rate of profit and the interest rate.

70 See manuscript 2522:16 (quoted by Di Rienzo 1994:278): 'All interest on capital is furnished by some kind of enterprise, because generally speaking one only lends to those who are capable to pay an interest and to repay the capital. Now, one can only pay an interest and maintain a capital with the products of an enterprise. The one who borrows has to have a source, from which he can annually draw [*puiser*] the interest which he has to pay, and that source also has to furnish him with the means to maintain the capital which he has to repay. Now that source can only be some enterprise of cultivation, manufacture, mining, fishing or navigation. The rich landowner who lives in the capital and borrows in order to satisfy his [taste for] luxury paid for by the annual revenue of his land, uses funds for which he is answerable. Yet, this is paying with the products of an agricultural enterprise. When the government borrows, one sees thus that the interest paid to the creditors of the state is furnished by every kind of enterprise which give the state its public revenue'.

71 In this manuscript, Morellet discusses at length the various 'causes' of the level of interest. On page 206 he gives the following list: 'there are 4 causes or principles of the rate of interest considered in a constant state which should be placed in the following order [:] 1<sup>o</sup> the greater or smaller abundance of wealth [:] either accumulated or annually renaissant [wealth] 2<sup>o</sup> the greater or lesser saving made on this mass of wealth and which can be applied to enterprises which yield a profit 3<sup>o</sup> the greater or lesser freedom to make this application 4<sup>o</sup> the greater or lesser security of agreements between those who confide those savings to an entrepreneur and the entrepreneur himself [...] the security of the payment of interest and the repayment of the capital 5<sup>o</sup> (to be examined) the greater or smaller profits of the enterprises'.

72 In the *Wealth of Nations* it is argued that over time economic growth leads a country towards 'that full complement of riches which the nature of its soil and climate, and its situation with respect to other countries allowed it to acquire; [...]' (Smith 1776, I, ix; cf. II, iv, 8). Smith argues that the further an economy progresses towards this 'full complement of riches' the greater the competition between capitals will be and the lower the rate of profit. Morellet is perhaps to some extent influenced by this idea, judging by the extracts of chapter ix, book I which he quotes in ms. 2520:278-9, and his own similar thoughts on the next pages 280-1. However, Morellet in ms. 2579 also explicitly criticises Smith's ideas with respect to the retrograde phase of economic growth. See note 12 chapter 8.

responsible, an explanation which neither Turgot nor Morellet envisage (see section 8.2).<sup>73</sup>

### 7.3.5 'Interest as an exchange phenomenon'

Another problem posed by Turgot's theory of capital and interest is that in some places, chiefly the sections 72 to 76 of the *Reflections* and most of the 'Paper on Lending at Interest', the rate of interest is considered as a price for the use of money which is determined in the bargaining process between lender and borrower. This discussion is dissociated from the more general theory of capital in which the *relation* between the 'pure' return obtainable on capital in some kind of enterprise (profit), and the return on loans (interest) plays such an important role.<sup>74</sup> Surprisingly enough, in section 72 of the *Reflections* Turgot seems to deny that there exists a relation between the rates of profit and interest at all. He writes that '[t]he price of the loan is by no means founded, as might be imagined on the profit the Borrower hopes to make with the capital of which he purchases the use' (1766:77).<sup>75</sup>

What are Turgot's reasons to insist on the point that the rate of interest upon which a borrower and lender agree, is not directly related to the rate of profit which the borrower can obtain by employing the borrowed sum and which the lender foregoes by lending it? The most likely

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73 Ricardo presents his views about the fall in the rate of profit as a criticism of Smith (and writers influenced by him like J.B. Say): 'Adam Smith, [...], uniformly ascribes the fall of profits to the accumulation of capital, and to the competition which will result from it, without ever averting to the increased difficulty of providing food for the additional number of labourers which the additional capital will employ' (1821, ch.21). The latter explanation is according to Ricardo the right one. Whether expansion of production '[...] shall or shall not lower profits, depends solely on the rise of wages; and the rise of wages, [...], on the facility of producing the food and necessities of the labourer' (*ibid.* 194). Smith's explanation is explicitly rejected by Ricardo with an appeal to Say's law (*ibid.*). According to Ricardo, the relative abundance of capital can not be the cause of the fall in the rate of profit since '[...] there is no amount of capital which may not be employed in a country, because a demand is only limited by production'. Cf. Morellet: '[...] all substances whose abundance constitute wealth could thus be employed [*i.e.*, as capital in some enterprise] as long as there is some improvement possible, [or] as long as there remains some work to be done (*and this is always the case*)' (Morellet 1769:204; emphasis added).

74 This dissociation is noted by Groenewegen: '[a]lthough Turgot's analysis of interest is essentially market oriented and determines the rate of interest by supply and demand, the problem of capital itself is closely associated with production and the creation of an economic surplus, with class distribution and economic growth' (1982:130).

75 Turgot supports this statement with two arguments. On the one hand, he notes that people do not only borrow money in order to employ it 'actively' in some enterprise, but also for consumption purposes: 'People borrow for all kinds of purposes, and with all kinds of motives. One borrows to undertake an enterprise which will make his fortune, another to buy an estate, another to pay a gaming debt, another to make up for the loss of his revenue, of which some accident has deprived him, another to keep himself alive, while waiting for what he can get by his labour; [...]' (*ibid.*). On the other hand, he argues that to the lender the magnitude of the profit which the borrower can obtain with a loan capital, is not an important consideration either. When entering into a loan contract the lender '[...] is only concerned with two things; the interest he is to receive, and the safety of his capital. He does not trouble himself about the use the borrower will make of it, any more than the merchant concerns himself with the use the buyer makes of the commodity he sells him' (*ibid.*).

interpretation is suggested by the following passage, in which Turgot explains why it is *justified* that a lender should ask for interest:

[The lender has] the right to require an interest for his loan simply because the money is his property. Since it is his property he is free to keep it, nothing obliges him to lend; if then he does lend, he may attach conditions to the loan as he sees fit. In this he does no injury to the borrower, since the latter agrees to the conditions, and has no right of any kind over the sum lent. The profit that may be procured by the use of money is doubtlessly one of the commonest motives influencing the borrower to borrow on interest; it is one of the means which facilitates his payment of the interest, but this is by no means what gives the lender the right to require it; it is enough for him that this money is his own, and this right is inseparable from property (1766:79-80).

Note that Turgot does not deny in this passage that the profit that can be made with a sum of money commonly influences the interest rate which a borrower is prepared to pay.<sup>76</sup> He merely denies that this expected profit is the main reason why the charging of interest is *justified*.<sup>77</sup> Thus it may be argued that in the places where Turgot describes the bargaining process between borrower and lender (and ignores the relations to his theory of capital and profit at large) he primarily addresses a normative question, namely 'why is the charging of interest justified?' Turgot probably recognises that the latter question is of a *legal* nature, whose discussion 'interrupts the line of argument' of the *economic* analysis of the *Reflections*.<sup>78</sup>

It are the (normative) arguments of the sections 73 to 76 of the latter text which Turgot works out in his 'Paper on Lending at Interest' (1770). In that text he combats the traditional justifications for the enforcement in France of the ancient usury laws.<sup>79</sup> Turgot insists that the freedom to charge interest on money loans is an extension of the exclusive property rights of individuals, and the related freedom of contract (see 1770a:154; 1766:79). To explain the condemnation of usury in several bible texts, Turgot argues that these are mere exhortations to be

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76 He also states that '[...] the person, [...] who lends his money, does not only give up the barren possession of such money, but deprives himself of the profit or the revenue he would have been able to procure by it [...]' (1766:79). Turgot thus acknowledges that the profit to be made with the sum lent is an important consideration to both the borrower and the lender. It may even be argued that Morellet is not entirely fair when criticising Turgot for his dissociation of the rates of profit and interest. Cf. note 69 above.

77 This does not stop him from arguing in the 'Paper on Lending at Interest' (1770a:160) that in modern commercial society lending at interest has become '[...] less odious, since, through commercial activity, it has [...] become a source of profit to the borrower'.

78 In a letter to Dupont (12/1/1770; Schelle III, 371) Turgot asks to omit the theological sections on interest from the *Reflections*, which the latter did by leaving out sections 73 and 75 in his edition of the former's collected works. In a later letter to his secretary Caillard, Turgot asked to leave out section 75 because it 'interrupts the line of argument'. While these facts indicate that Turgot distinguishes between the legal and economic arguments with respect to the payment of interest, this does not preclude that Turgot believes at the same time that both are perfectly compatible. Free competition in the market for loanable funds is both favourable to reproduction and right as a matter of natural law.

79 The immediate occasion of the paper is a complaint 'to the magistrate at Angoulême against an individual who allegedly had exacted usurious interest rates in credit transactions' (1770a:149).

charitable. Invoking the common distinction of the modern natural jurisprudence tradition between the 'perfect' rules of justice and the 'imperfect' ones of humanity and charity,<sup>80</sup> he argues that there are no reservations against the charging of interest on account of the former kind of rules.

Property in money is no less absolute than that in furniture, in a piece of cloth, or in a diamond; the owner is no more bound to dispose of it gratuitously' giving it, lending it gratuitously is a laudable action inspired by generosity, sometimes demanded by charity and humanity, but which is never in the nature of strict law (1770a:154; cf. 1766:80-1).

According to the perfect precepts of natural law (of which the principle of commutative justice is one), people are not obliged to give something for nothing. Turgot's shrewdest argument against writers and laws which forbid the charging of interest on money loans, is that the prohibitions against usury violate the very principle of commutative justice which they are intended to ensure.<sup>81</sup> This is, Turgot argues, because if the lender does not receive interest on his money it can not be said that both parties to a loan contract benefit equally. According to him, equality in exchange in the loan market is established automatically through the confrontation of the subjective estimations of both the borrower and the lender of the usefulness of owning a sum of money for a certain period of time. In order to determine the amount of interest paid on a loan,

[...] we must take account of the usefulness which this ownership I will acquire, but which I do not yet have, will yield me, and the usefulness which this ownership could yield to the lender during the time he is deprived of it [...]( 1770a:158).

Turgot suggests that the normal outcome of these considerations prior to the conclusion of a loan, is that the stipulated interest is an average of the two subjective estimations of the usefulness of the command of a sum of money during a certain period, allowing both contracting parties to benefit equally from the loan. This solution is strongly reminiscent of the analysis of 'Value and Money' where the stipulated price in an isolated exchange between two traders, the *valeur appréciative*, is explained as the average of two *valeurs estimatives*. The similarity on this point between the 'Paper on Lending at Interest' and 'Value and Money' confirms the present interpretation that Turgot, by defining a free loan contract as an agreement in which both parties benefit equally, he is primarily concerned with the normative issue of the content to the principle of commutative justice (cf. section 2.3.4.2 above).

It is quite important to bear in mind that Turgot's analysis of the bargaining process in the loan market is meant as an argument in support of the opinion that, by virtue of the fact that they

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<sup>80</sup> See appendix A.

<sup>81</sup> 'It is very curious that the principle of the equality of values which must be present in agreements is the starting point for the establishment of a theory according to which the whole of the gain is for one of the parties, and none for the other' (1770a:159).

are freely negotiated, the conditions of a loan, to which borrower and lender agree, must be judged to be 'equitable'.<sup>82</sup> It is primarily in this normative context that Turgot presents 'interest as an exchange phenomenon' (Groenewegen 1983a:608). Undoubtedly, Turgot's analysis in the 'Paper on Lending at Interest' is remarkable for the attention paid to 'the time element in the phenomenon of interest' (*ibid.*). According to Turgot in a loan 'the value of the promise of a sum of money [...] has to be compared with the value of a sum of money available now' (1770a:158). Since the present use of money is more valuable than the promise of money later, the borrower is prepared to pay, and the lender requires, a rate of interest.<sup>83</sup>

However this does not seem to justify the claim that the notion of 'time preference' fulfils the same central function in Turgot's theory of capital as it does in Böhm-Bawerk. This interpretation appears to be given by Groenewegen, who not only suggests that Turgot explains the phenomenon of interest payments in money loans by the notion of 'time preference', but also that he understood the return to capital generally as originating from the act of 'waiting of the capitalist'.<sup>84</sup> This interpretation is misleading since it creates the impression that the factor which generates a return to capital is the very *passage of time* during which the capitalist refrains from enjoying his wealth.<sup>85</sup> This may be the position of Böhm-Bawerk, but there is little reason to argue that Turgot substantially anticipated the former on this point. What Turgot appears to be saying is that the fact that the capitalist gives up the use of his money for a certain period justifies that he is paid an interest. As to the question what the *origin* of this return to capital is, Turgot's answer is that it derives from the 'active' employment of capital. If one further wants to pinpoint what factor is exactly responsible for the 'generation of the surplus' according to Turgot, then his least ambiguous answer is that eventually the *land* is the 'source' of the net product (see section 3.3.1).

The difference between 'time' and 'land' as explanations of the 'source' of the return on

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82 According to Turgot, the enforcement of the usury laws must thus be seen as illegitimate meddling of the authorities, even as violation of private property rights. It should be recognised that this is a value judgement about the nature of private property and the freedom of contract.

83 This idea is already very well developed by Galiani in *Della Moneta* (1751), also in the context of the determination of the meaning of the principal of equivalence in loan contracts. It seems likely that Turgot is influenced by Galiani on this point. See Hutchison (1988:263-5).

84 The latter interpretation is given in Groenewegen's earlier (1971) article. There it is argued that Turgot answers the question 'how does the return [to capital] arise and what constitutes this return?' by referring to 'the waiting of the capitalist' (*ibid.* 333). Again Groenewegen (1983a:609) asserts that the '[...] stress on the time element in the phenomenon of interest is the link that connects Turgot with Böhm-Bawerk's explanation of the origin of interest'.

85 The term *attendre* occurs in section 60 of the *Reflections*, where Turgot says about a person who has invested his capital in a tannery: 'It is he who will wait for the sale of the leather to return to him not only all his advances, but also a profit sufficient to compensate him for what his money would have been worth to him, had he turned it to the acquisition of an estate, and moreover, the wages due to his labour and care, to his risk, and even to his skill' (1766:70). However, this passage seems to be not much more than a, rather unspectacular, recognition that the production and sale of commodities takes time.

capital may appear academic, but needs to be stressed nevertheless. In the first place, if Turgot would indeed be of the opinion that 'abstinence' somehow produces the return to capital then his 'physiocratic' insistence that the earth is the 'unique source of value' is quite incomprehensible. Second, in a larger historical context, the same opinion would seem to place Turgot outside the surplus approach to the issues of value and distribution.<sup>86</sup> While it is of course very well possible that the young Böhm-Bawerk was in some measure influenced by Turgot's analysis in the 'Paper on Lending at Interest', this does not mean that the Frenchman's intentions in this text were the same as those of the Austrian.<sup>87</sup> Turgot seems to be primarily concerned with the *justification* of the charging of interest. Perhaps he does not distinguish this question clearly enough from what must be considered as his *explanation* of the level of interest, which was the issue examined in section 7.3.4.<sup>88</sup>

### 7.3.6. Historical appraisal

Most, though not all, modern commentators acknowledge that the theory of capital which Turgot puts forward in the *Reflections* should be seen as a 'generalisation' of physiocratic theory.<sup>89</sup> Indeed, it

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86 In response to Groenewegen (1971), Meek (1973a:25 note 2) remarks that 'to ascribe a "waiting" theory to [Turgot] seems to me to be unduly selective: one might just as easily father an "exploitation" theory upon him on the basis of the wording in LXI'. To be clear, neither interpretation seems to be warranted. To argue that Turgot either saw 'abstinence' or 'unpaid labour' as the origin of profit and interest is to understand Turgot's theory of capital in the context of an analytical and ideological debate which only came to fruition at the end of the nineteenth century. At the same time, this does not mean that it is indifferent to Turgot what the 'origin' of the surplus is and in this respect his position is close to that of the physiocrats.

87 Groenewegen (1983a) shows that Turgot's influence on Böhm-Bawerk is especially apparent in the unpublished manuscript '*Böhm-Bawerk's Jugendarbeit über den Kapitalzins*', while also in the latter's later works, *Capital and Interest. A Critical History of Economical Theory* and *Positive Theory of Capital*, Turgot is frequently quoted. It seems therefore likely that especially the young Böhm-Bawerk owed some of his views on interest to Turgot. This does not turn Turgot retrospectively into an Austrian economist. It should be noted that, while as much is suggested by Groenewegen in his 1971 and 1983a articles (see n. 84 above), in his 1982 article he stresses that '[...] in the case of capital theory, Turgot's "modernity" can be exaggerated and its proximity to neo-classical thought over-emphasised' (Groenewegen 1982:130) This implies a qualification of his earlier interpretation.

88 It is interesting to note that Morellet seems to distinguish the questions of the justification and the explanation of the interest rate more clearly. On the one hand, as we saw (notes 69 and 70 above), he criticises Turgot for creating the impression that there is no relation between the level of the rate of profit and the interest rate. This relates to the issue of the determination of the rate of interest. On the other hand, he seems to fully agree with Turgot's arguments with respect to the justification of the charging of interest. In ms. 2520 there is an extensive discussion based upon the latter's 'Paper on Lending at Interest' under the title *Apologie du prêt à intérêt*. It deals with the following points: '1° of the nature of money which is [that it is] a merchandise; 2° that the loan is a free agreement without prejudice of a third [party]; 3° that the loan is just the free use of the property of the lender; 4° that in the loan one gives equal value for equal value; 5° that lending at interest can not be more blameful than various other types of authorised and approved loans; 6° that lending at interest is indispensably necessary to trade'.

89 The traditional view that Turgot's *Reflections* should be seen as a generalisation of physiocratic theory is adopted by for example Weulersse (1910,II,723-24), Meek (1973a:14-19), Groenewegen (1987a:213). This interpretation which appears to be the correct one, seems to be challenged by some recent commentators who



seems evident that Turgot himself explicitly understood his contribution in that manner. In a letter (dated 9/12/1766) to Dupont, he gives the following description of the *Reflections* on which he had recently been working.

[The work is] a type of outline of the analysis of the working of society and the distribution of wealth. I did not want to include any algebra in it, and there is only the metaphysical part of the *Tableau économique*; moreover, I have left out many questions which should be treated to render the work complete, but I have treated rather thoroughly questions relating to the formation and the movements of capitals, the interest of money, etc. It is a brief outline (Schelle 1913-23, II, 519. Translation Groenewegen 1977: xvii-xviii).<sup>90</sup>

An assessment of the precise respects in which Turgot's theory of capital developed physiocratic theory seems in place. Basing himself on a detailed examination of Turgot's writings, Meek argues that the *Reflections* was the culmination of an effort from 1763 onwards to incorporate two ideas in particular within the physiocratic model.<sup>91</sup> Turgot tried to carry out

(a) a generalisation of Quesnay's concept of 'advances' and its use as the basis for an explanation of the economic 'mechanism' *as a whole* - i.e., not simply for an explanation of the 'mechanism of cultivation'; and (b) a clarification and development of the idea that the profit of the entrepreneur who makes the 'advances' is part of the absolutely necessary expenses of production (Meek 1973a:17).

The second development is the more significant of the two.<sup>92</sup> It should be recalled that Turgot consistently refers to the return on capital, or 'pure' profit, as an income which is equal to a '[...] revenue which might be enjoyed without having to do anything' (766:86).<sup>93</sup> In the end, the principal

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discusses the theories of capital of Quesnay and Turgot almost completely separately. See Hutchison (1988), Meyssonier (1989).

90 For another acknowledgement that the *Reflections* were intended as a development of the *Tableau* see Turgot's letter of 20/2/1770 to Dupont in Schelle 1913-23, III, 377-380. In this letter Turgot reprimands Dupont that even though 'my aim has been to develop the principles of the *Tableau Économique*' (p.378), this does not give the latter the right to 'correct' anything in the *Reflections* that does not correspond with Quesnay's opinions.

91 Meek (1973a:14-19) provides a detailed discussion of the Turgot's ideas on profits before 1766. It begins with the still rather sketchy notion of 'fundamental price' in the latter's 1753-4 'Plan' (cf. section 2.3.1). As Meek argues, it is clear that Quesnay's analysis of the necessity of *avances annuelles* and *avances primitives* in agriculture had a considerable influence on the Turgot's much more detailed later theory of profit. One passage in Turgot's 'Plan for a paper on taxation' (1763:103) is particularly instructive for the way in which he tried to 'graft' his own ideas 'on to the main body of Physiocracy' (Meek 1962:310). In this draft he writes: 'M. Quesnay has developed the mechanism of agriculture which is based entirely on very large original advances and requires in addition annual advances which are equally necessary. It is therefore necessary to deduct from the sale of the produce: firstly, all the expenses or *annual advances*; second, the interest on the *original advances*; thirdly, their maintenance and the replacement of their inevitable decay, at least equal to the interest; fourthly, the subsistence and reasonable profit of the entrepreneur farmer and his agents, the wages of their labour and of their industry'.

92 With respect to the first 'generalisation' see chapter 5 note 4 and section 7.2.1 n.11.

93 Cf. *Reflections* section 60: '[...] a profit sufficient to compensate him for what his money would have been worth to him, had he turned it to the acquisition of an estate'; section 62: '[...] a profit equal to the revenue they would be able to acquire with their capital without any labour'; the same formulation is used in section 67. See (1767a:116) where the net profit is referred to as '[...] an interest on their [*i.e.* the

reason why the owners of moveable wealth require a return on their advances is thus that there exists an 'opportunity cost' to capital, that can not be encroached upon. It is the current rate of interest which indicates this 'opportunity cost'. This indicates that his theory of money-capital and interest is crucial to his explanation of his opinion that profit is an 'absolutely necessary' item to entrepreneurs.

This elicits two questions with respect to the relations between Turgot's theory of profit and interest and those of earlier writers. In the first place, which writers may have influenced Turgot on this vital point? Second, how exactly do these relate to Quesnay's perception of the economy? With respect to the first question, Turgot's views about the factors which determine the interest rate probably owe little to Quesnay. The latter hardly presents any clear ideas about the issue. In his fullest discussion of the issue, the article '*Observations sur l'intérêt de l'argent*' (1766), Quesnay argues that lenders 'arbitrarily' determine interest rates, and that for this reason a maximum rate of interest should be introduced based on the relation between the average value of rents and the price of land.<sup>94</sup> It seems more likely that in some respects Turgot's views about the determination of interest rates owe to Cantillon and Hume.

Some clear, although indirect, support for this interpretation is supplied by the following passage in one of Morellet's manuscripts where it is outlined which writers should be considered as having made the first steps towards '[...] the true notions of the nature and functions of money in the body politic':

Mr. Cantillon is, I think, the first writer who has combated [the opinion that the quantity of currency determines the interest rate] in his essay about trade. Mr. Hume has then followed in his discourse about the interest of money, and after them Mr. Smith, or Wealth, and the author of the small work entitled of the formation of wealth [*i.e.*, Turgot] have treated the question with more understanding and clarity (ms. 2522:6).

The idea which this 'genealogy' appears to refer to is the view that the rate of interest is not related to the quantity of money in circulation, but the 'supply' of and 'demand' for savings.<sup>95</sup>

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entrepreneurs'] advances equal to what the same capital would yield them in any other way without effort on their part, be it in the acquisition of landed property, or in lending at interest'.

<sup>94</sup> '*Observations sur l'intérêt de l'argent*' was first published in the *Journal de l'agriculture* in January 1766, Vol. IV, part I, pp. 151-171. In this article Quesnay maintains: 'The lender can not reasonably assume, when arbitrarily deciding by himself the rate of interest on his money, that the borrower will fairly be able to pay a return which is larger than the one which the land produces, since only the land produces really a revenue, and it is only that revenue which can be the pretext for the lending of money at interest' (1766a:765). For a discussion of the relation between the rates of interest and rent in Cantillon, Quesnay, Turgot and Isnard, see section 8.3.2 below.

<sup>95</sup> See *Reflections* sections 77 to 79. Cf. section 7.3.4 above.

The former opinion is quite widespread in the 18th century.<sup>96</sup> Against this, Cantillon maintains that '[t]hough money passes for a pledge in exchange it does not multiply itself or beget an interest in simple circulation' (Cantillon 1755:199).<sup>97</sup> The implication, (which is not clearly worked out by Cantillon), is that money does 'beget an interest' in another kind of circulation. While it is generally true, as Aspromourgos (1996:150-1) points out, that '[i]n the case of Turgot, we have the problem that apparent signs of a Cantillonian influence may in fact be merely evidence of the Cantillonion element in Quesnay', in this particular instance a direct influence seems likely.<sup>98</sup> That is to say, the opinion that the rate of interest is unrelated to the amount of money in 'simple circulation' (*i.e.*, 'circulating as means of payment'), may have inspired Turgot to distinguish it from the 'true circulation' of money (*i.e.*, its circulation as capital) (cf. section 7.2.3 above).<sup>99</sup>

At the same time, the possible influence on Turgot of Cantillon's views on interest can be

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96 Morellet names in particular Law, Melon, and Montesquieu as exponents of this dominant view. In one place in the 'Third edition of the *Tableau* (1759b:135n) Quesnay agrees with it: 'If it is found that money is being lent at a high rate of interest in a country, this is proof that the quantity of money is at most only in the proportion we have described [*i.e.* equal to the size of the net product], since those who need it or want the use of it are paying such a high price for it. This has been the position regarding interest on money in France for a long time'.

97 Apparently independently, Hume arrives at a similar conclusion. He writes: '[i]t is vain, [...], to look for the cause of the fall or rise of interest in the greater or less quantity of gold and silver, which is fixed in any nation' (Hume 1752:322).

98 Not much textual evidence has been found of the influence of Cantillon on Turgot. Brewer (1992) sees a number of parallels between the economic theories of the two men (some of which are questionable), but provides hardly any textual evidence. Groenewegen (1993) confines himself to noting that Turgot possessed a copy of Cantillon's *Essai*, and referred to the latter in his correspondence (Schelle 1913-23, I:151, 464; II: 500). Murphy (1986b, esp. 308-11) gives a detailed account of the likely fact that Gournay and his group, of which Turgot and Morellet were part, were responsible for the eventual publication of Cantillon's *Essai* in 1755. This leaves the question to what extent Turgot was directly and substantially influenced by Cantillon largely unanswered. It may be noted that Morellet's manuscripts form a rich and largely unexplored source for the understanding of the influence of Cantillon on various topics.

99 By the way, Turgot's use of the analogy between the 'true circulation' of money and of the circulation of blood can be taken as a direct reference to the earlier, and in Turgot's opinion incorrect, use of the same analogy by theorists such as Vauban, Law, and, in his own time, Forbonnais. Vauban wrote: '[...] the trade of the country is facilitated by the circulation and movement of money, [which is] no less necessary to the body politic [*corps politique*] than that of blood to the human body, for the maintenance and subsistence of the people, and stops when money becomes idle and leaves the kingdom by moving to foreigners'. Law similarly: 'money is in the state what blood is to the human body' (cited by Larrère 1992:107-8). Forbonnais (1753, 141) retakes the same analogy: 'If it is true to say that money fulfils in the body politic [*corps politique*] the functions which blood has in a human body, then the superabundance of the former must be as dangerous as that of the latter. The science of the physician consists of the maintenance of equilibrium between the liquids; the skill of politics consists of establishing it between the various occupations of the people.' (Cited by Murphy 1986a:540). Johnson (1966:620) further names Mirabeau, Helvetius and Butel-Dumont as writers who use the blood-money analogy. Much later Canard, possibly inspired by Forbonnais still uses the same analogy. It is important to note that the analogy is used in at least two different senses, as Turgot's reference to the 'true circulation' probably indicates. Most writers refer to the 'simple' circulation of money as intermediary in exchanges (if one wants Marx's series C-M-C). In contrast, Turgot seems to refer to the 'active' circulation of money-capital (M-C...C'-M'; where dots indicate production). This at least is the case with respect to the use of the analogy in the *Reflexions*. For another use by Turgot of the analogy see note 16 section 4.2 above.

exaggerated. Cantillon does not go much further than arguing that '[...] the Interest of Money in a State is settled by the proportionate number of Lenders and Borrowers' (Cantillon 1755:199).<sup>100</sup> This, as we saw in section 7.3.4, is also considered by Turgot as the most approximate principle determining the interest rate. However, a point which is much less clear in Cantillon is what the perceived relation is between the return on money-capital and the 'pure' return on advances to some enterprise. Admittedly, in one place Cantillon asserts that the interest rate '[...] seems based upon the Profits which the Undertaker can make out of it (1755:201).<sup>101</sup> However, whether he also sees the 'pure' profit of entrepreneurs as an income 'equal to the revenue they would be able to acquire with their capital without any labour', *i.e.*, as a return on capital, is contentious.<sup>102</sup> More importantly, what is almost wholly absent in Cantillon is the idea that the money-capitals offered in the loan market should be seen as a small part of the gradually accumulated capitals (or moveable wealth) in society.

A similar limitation holds true for Hume's discussion of interest. Hume distinguishes three determinants of the interest rate, 'the demand for borrowing', 'the riches to supply demand', and 'the profits arising from commerce' (Hume 1752:322). These three causes are all connected to the two factors 'extent of commerce' and 'frugality' of traders. On the one hand, the more extensive trade is, the more borrowers there will be, giving rise to a high interest rate. On the other hand, the extensive trade will give rise to high mercantile profits, which will be saved by frugal merchants. When these merchants 'become tired of business' they will offer this money on loan which will have the effect of reducing the interest rate. According to Hume, since borrowing to engage in commerce raises interest, and the saving and lending out of sums of money made in commerce in turn reduces interest,

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100 Cantillon's preceding remark that the interest rate is determined '[j]ust as the Prices of things are fixed in the altercations of the Market by the quantity of things offered for sale in proportion to the quantity of money offered for them', is reminiscent of Turgot's view in section 72 of the *Reflections*, and Isnard's view (1781,I:281).

101 The French reads '[...] son usage constant dans les Etats paroît fondé sur les profits que les Entrepreneurs en peuvent faire'. In section 72 of the *Reflections* Turgot writes: 'Le prix du prêt n'est point du tout fondé, comme on pourrait l'imaginer, sur le profit que l'emprunteur espère qu'il pourra faire [...]'. Here Turgot may be directly paraphrasing Cantillon. The difference it implies between the two men may be not a large as it seems. As was argued in section 7.3.5 this dissociation of interest and profit is probably motivated by Turgot's opinion that the charging of interest is *justified*, regardless whether or not the borrowed sum yields a profit, and probably not to deny that there is a relation between both rates.

102 This question is at stake in a recent dispute between Prendergast and Aspromourgos. Prendergast (1991) argues that Cantillon's theory of profit is much more approximate to the notions of profit of Turgot and Smith than previously assumed. She bases herself on a few passages on the pages 201-7 of the *Essai*, which seem to contradict some of Cantillon's views in the first part of the text. Prendergast's interpretation is sharply disputed by Aspromourgos (1996:118-19). It goes too far to discuss the precise reasons for the disagreement between the two commentators. In the present context, suffice it to note that they agree that Turgot's ideas with respect to profit as a pure return on capital are at the very least much more systematical than those of Cantillon.

[i]t is needless, [...], to enquire which of these circumstances, to wit, *low interest or low profits*, is the cause and which is the effect? They both arise from an extensive commerce, and mutually forward each other. [...] An extensive commerce, by producing large stocks, diminishes both interest and profits [...] (1752:327).

Hume imagines the fall in the interest rate to be the result of the phenomenon that frugal merchants, grown rich in their trade, 'switch sides' and become lenders instead of borrowers. He then comes to his famous conclusion:

And thus if we consider the whole connexion of causes and effects, interest is the barometer of the state, and its lowness is a sign almost infallible of the flourishing condition of people. It proves the encrease of industry, and its prompt circulation through the whole state, little inferior to a demonstration (*ibid.*).

Turgot may be indebted to some of these ideas, especially Hume's stress on the 'frugality' of the merchants (cf. 1766 section 82), and the opinion that a low interest rate indicates the abundance of capitals (*ibid.* 89). However, an important difference is that Hume argues that savings arise out of an 'extensive commerce'. Not present in his work is the idea that capitals are saved out of the annual surplus which arises, not from trade, but rather from production.

In this latter respect, Turgot is most likely to be indebted to Quesnay. That is to say, the clear definition of the *produit net* as the disposable part of the annual produce of a nation, provides a ready answer to the question what allows accumulation and growth in an economy.<sup>103</sup> At the same time, Turgot's notion of profit as a return to capital seems to be 'grafted on to the main body of Physiocracy' (Meek 1962:310) and does not fully agree with Quesnay's original ideas. To be precise, there appear to be at least six respects in which Turgot's theory of profit alters Quesnay's perception of the economy.

First, it has to be noted that in isolated passages Quesnay, Mercier de la Rivière and Le Trosne all hint at the same notion of entrepreneurial profit as an 'opportunity cost' of capital.<sup>104</sup>

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103 Saving and accumulation as an historical process is rarely discussed in the physiocratic literature in the manner of Turgot (see section 7.3.1 above). Something of an exception is Le Trosne's description (1777a: discours iv,161) of how in a new colony the *fonds d'avances primitives* is saved out of the surplus: 'A newly established colony will have to accumulate products which can be applied to the earth, it will have to amass those funds of original advances little by little by a rigorous economy and a long privation, and by saving on the annual costs and by making [the latter advances] more productive'. This is quite similar to Turgot's remarks in section 100 of the *Reflections*.

104 In *Analyse*, Quesnay notes that '[...] a fund which is as advantageous to the nation as that of the advances of its cultivation ought in itself to bring in net to the farmers, who combine their work and the use of their intelligence with it, an annual interest at least as high as that which is paid to idle rentiers' (1766b:155). In itself this passage is interesting, since it suggests that the idea of considering profit as a 'pure return' on capital is not entirely strange to Quesnay. However, it is the only instance in Quesnay's work in which this idea figures. The notion of profit as a return on capital is also hinted at by Mercier de la Rivière (1767:223): 'the farmer must receive a net reward at least as great as that which he could get if he employed his capital in another occupation'. Le Trosne (1770:22) goes further than that in the sense that he extends the argument to commercial and industrial enterprises: 'The entrepreneurs, besides their cares, contribute capitals and advances for which they have to receive a proportionate interest, because nobody makes advances but in the hope of a profit. They could have acquired landed properties which would have given them a revenue; [...]'. A similar

However, neither do they draw the conclusion that '[i]f this return is diminished, the capitalist will withdraw his money, and the enterprise will come to an end' (Turgot 1766:92), nor the important theoretical implication that there would exist in the economy a tendency towards a uniform rate of return with respect to the 'pure' return on capital. In this respect Turgot analysis of 'capitalistic production' not only goes beyond Quesnay's analysis, but beyond the ideas of all his predecessors (cf. Aspromourgos 1996:156).

Second, a tempting answer to the question why Quesnay does not systematically develop the idea that the rate of return on money capital ('interest') constitutes an (opportunity) cost which entrepreneurs have to recoup when employing capital in their enterprises, is that his analysis of the loan market is rather negative. In the 'General Maxims', for instance, Quesnay explicitly dissociates money capital from the 'active fortunes' which 'are employed, for example, to form the advances of large enterprises in agriculture, trade and profitable manufactures, or to improve landed property whose revenue comes back into circulation each year' (Quesnay 1767a:244).<sup>105</sup> Instead he insists that money capital has a predominantly 'sterile circulation':

[...] we should not regard in the same way [as the 'active fortunes'] the monetary fortunes which are drawn from interest on money and which are not charged on productive funds, nor those which are employed in the acquisition of useless offices, privileges, etc.; their sterile circulation by no means prevents them from being burdensome fortunes which undermine the nation (*ibid.*).

Quesnay does thus not associate the practise of borrowing money with the financing of agricultural (or any other) enterprises.<sup>106</sup>

In contrast, Turgot emphasises this relation. An interesting piece of textual evidence

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idea is expressed by Le Trosne in 1766 in the article '*De l'utilité des discussions économiques*' (*Journal d'Agriculture* July 1766): ' [...] any well devised and conducted enterprise must reimburse its costs and give as well a profit proportionate to the outlay [*un bénéfice proportionné à la mise*]' (in Le Trosne 1768b:18 n). As was argued in section 3.3.2, it seems probable that Le Trosne was influenced by Turgot on this point. *Inter alia*, some commentators note that in his early articles Quesnay seems to allow for profits in agriculture as well as trade and industry. Eltis (1984:13-14) basing himself on chapter seven of the *Philosophie Rurale* argues that Quesnay allowed for a 'normal profit' both in manufacture and in agriculture. The adjective 'normal' is deceptive in this context. Eltis correctly points out that the figures used by Quesnay (who probably wrote that chapter) imply that some agents earn wages in excess of their subsistence. However, that is a notion which is considerably different from profit as a 'normal' return over capital advanced. As Herlitz (1961:141-44) argues, these early hints at the existence of 'profits' do probably not reflect any clear theoretical concept of profit.

105 To be precise, Quesnay does not completely deny that money capital can be put to active uses since he points out that '[b]y the fortunes which come back into circulation we should understand not simply those fortunes which are destroyed [*i.e.* used up in production], but also those sterile or idle fortunes which become active [...]'. However, this latter point is not stressed at all, as in the work of Turgot, Morellet and (as we will see) Isnard. At the same time, though, the very distinction which Quesnay makes here between the 'idle' and 'active' circulation of capitals indicates that the more developed views of the latter writers fit well into on the physiocratic conception of the role of advances ('active capital') in the reproduction of commodities.

106 However he does relate the interest rate to commercial credit and state debt. See '*Impôts*' (1757c:580-1) and '*Observations*' (1766a:766-7).

suggesting that Turgot developed his different perception of the function of loan capital within the economy at least partly in response to Quesnay, can be found in the former's notes on the latter's early article *Impôts*.<sup>107</sup> A passage in which Quesnay confines himself to remarking that the interest of money (as well as the rent of houses, and other real property apart from land) is not a 'real revenue', but one that is 'taken out of another fund of wealth', gives rise to the following observation by Turgot:

Since no enterprises of agriculture and commerce can take place without advances, and consequently without capitals, it is necessary that there is in a nation a mass of pecuniary wealth destined to supplying those advances, and a trade must necessarily establish itself between the owners of money and those who need it to employ it in their enterprises; thus the trade of money is not worse by itself than any other trade, even though it is only an intermediary agent between the consumer and the producer [which] is always paid from the revenue of the land, in which it resembles any other trade (Turgot in Quesnay 1757c: 580, n.3).

What Turgot argues, is that the loan market (*i.e.*, 'the trade of money') should, so to say, be incorporated in the reproductive model. In the *Reflections* this idea is worked out more clearly in Turgot's views on the 'true circulation' of money (which are probably partly inspired by Cantillon and Hume): loan-money should be considered as an 'active capital' when it is used to finance some enterprise. Indeed, Turgot goes as far as saying that '[...] the capitalist lender of money ought to be considered as a dealer in a commodity absolutely necessary for the production of wealth' (1766:92).

Third, Turgot's insistence on the point that the 'use of money' is a tradable commodity like any other can in part be seen as a criticism of Quesnay's suggestion that the income of the capitalist is not properly his own.<sup>108</sup> In effect, Turgot separates the question whether it is justified to get a return on one's money, from the question where this return 'originates'. On the one hand, this allows him to agree with Quesnay that 'money considered as a physical substance, as a mass of metal, does not produce anything; [...]', and that 'the interest of money lent is taken from the revenue of lands,

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107 The article '*Impôts*' was probably intended for the *Encyclopédie*, but remained unpublished until 1902, when it was rediscovered by Schelle, and published in the *Revue d'histoire des doctrines économiques et sociales*, n° 2. As was argued in note 4 above, there are clear signs of Boisguilbert's influence on Quesnay in this early economic text. Meek(1962:102-7) only translates the first few pages, unfortunately without Turgot's remarks.

108 In '*Observations sur l'intérêt de l'argent*' Quesnay states that 'according to the most exact order of justice' (1766a:763), rent is the only revenue which is properly one's own. This is so because only land (and water) can really produce a revenue, and therefore 'it is impossible to conceive of any other real revenue [besides land rent] which one could acquire with money, without taking it unjustly from that what belongs to someone else' (1766a:765). In a letter to Dupont, dated 20/2/1766, Turgot remarks that he has written some critical notes on Quesnay's article. Unfortunately these have not been found.(See Schelle 1913-23, II:512; Groenewegen 1971:328 n.1). However, it is clear that the view that the charging of interest is not according to 'the most exact order of justice', is rejected by Turgot out of hand. He specifically develops the idea that the charging of a rental price for the use of one's private property, whether it is money or some other effect, is *justified* as a matter of natural law (see section 7.3.5).

or from the profits [...]'.<sup>109</sup> On the other hand, he does not attach the moral implication to this that interest incomes are 'false revenues' [*faux revenus*] as opposed to land rents which are 'real revenues' [*revenus réels*] (Quesnay 1766a:764).<sup>110</sup>

Fourth, in the final sections of the *Reflections* (93 to 101) Turgot makes a conscious, though not wholly convincing, effort to reconcile his theory of profit with physiocratic doctrine.<sup>111</sup> He alleges that in his theory it only *seems as if*

[...] in the profits of the two working classes [*i.e.*, the agricultural and industrial entrepreneurs], there is a disposable portion, namely, that which corresponds to the interest of the advances, calculated at the current rate of interest of money placed on loan (1766:91).

In fact, Turgot continues, these profits [...] are not a return which agriculture or commerce bestows gratuitously on the person who has made the advances, it is the price and the condition of these advances, without which the enterprise could not be carried on' (*ibid.*). By stressing his idea of profit as an (opportunity) cost, Turgot apparently reaffirms the physiocratic conclusion that only rent is disposable.<sup>112</sup> Admittedly, this attempt raises some doubts about the question whether the return on capital should be seen as part of the surplus at all. However, it is important to acknowledge that Turgot's view that the 'pure' return on capital is indispensable, does not exactly disqualify his idea

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109 See section 7.3.2. For statements of Quesnay to this effect, see *e.g.* '[...] money does not beget money; without real wealth, pecuniary wealth would be sterile and useless wealth' (1757c: 584); 'money considered by itself is sterile wealth which produces nothing' (1766a: 765).

110 This qualification is similar to Quesnay's earlier observation in '*Impôts*' (1757c:580) that revenues such as interest on money, and rent from houses are not 'real revenues' (*véritables revenus*). In some sense Quesnay's argument is reminiscent of that of Marx. Since land (labour) is the sole 'source' of the surplus, it is only right that the owners of land (labour) should get the whole surplus. Note that Turgot's disagreement with the latter view does not necessarily mean that he rejects the idea that land is the 'source' of surplus value. As was argued in section 3.3.2, the simultaneous view that the surplus 'originates' in agriculture and that the owners of capital receive a net return on their advances implies a 'redistribution' of the surplus. It is interesting to note that Le Trosne, who as we saw expresses the same view on the 'redistribution' of the surplus, also takes a neutral stance with respect to interest payments. He argues that '[s]ince money has an own value, and since it is accepted in every exchange, since one can not only purchase products with it, but even land, it has been granted that a fixed annual sum [must be paid] in return for its use, which gives a revenue to the lender. But it is evident that that revenue, although very real for him [*i.e.*, the lender], is not produced by the thing itself [*i.e.*, money] and that it can only be [produced] directly or indirectly by the reproduction which produces the matter of all expenditure' (Le Trosne 1777b:929). The phrase that interest income is 'very real' to the lender, may be taken as a reference to the discussion whether this kind of income is 'real' or 'false'. Mille (1905:135) points out that, unlike Quesnay, Le Trosne in none of his works advocates a maximum rate of interest, and suggests that this is due to Turgot's influence. In fact, apart from Mirabeau the other physiocrats also do not seem to advocate a legal maximum rate of interest.

111 This intention is quite clearly stated in section 93 which reads: 'Let us now see how what we have just discussed about the different ways of employing capitals, agrees with what we have established before about the division of all the members of Society into three classes, the productive class or that of cultivators, the industrial or commercial class, and the disposable class, or that of proprietors'.

112 This argument also serves the more practical purpose of confirming the physiocratic advocacy of the *impôt unique*, the single tax on land, the argument being that if the returns on capital would be taxed, this would only result in an increase in the costs of production (and a reduction in rent).



that the 'pure' profit is a return which is paid over and above the replacement of the annual and primitive advances, *i.e.*, a surplus element. The idea that a normal return on capital is 'necessary', in the sense that if it does not materialise, an activity will eventually be discontinued, is of course not incompatible with the idea that the same item is 'disposable' in the sense that it is not required to replace capital used up in production.<sup>113</sup> Indeed, Turgot's idea of the return of capital as an 'opportunity cost' can be seen as his explanation of the position that, besides the landowners, the agents who make advances will obtain a 'persistent' share of the surplus produced in agriculture.

Fifth, this idea is directly relevant to Turgot's theory of accumulation. He indicates tolerably well that the 'pure' profit has an important function in the process of accumulation. This is particularly clear in the following passage from his 'Observations on a Paper by Saint-Péravy':

[...] the entrepreneurs retain part of their profits and accumulate capitals which they use to expand their enterprises; but for this it is necessary that their profits are a little higher than what is strictly required for the reproduction in the following year. This may occur in two ways; firstly, because besides the current return and replacement of their advances, besides the salary for their work and subsistence, they have a right to an interest on their advances equal to what the same capital would yield them in any other way without effort on their part [...] Secondly, because the absence of competition for some enterprises puts the entrepreneurs in the position of making profits which are higher than what is required for the continuation of those enterprises, and from which they can save a great deal each year (1767a:116).

The juxtaposition in this passage of profits which are made even under competitive conditions, with ('super normal') profits which are made by virtue of the absence of competition indicates a difference with the physiocratic views on accumulation.<sup>114</sup> As was discussed in section 7.2.2, Quesnay explains the capacity of farmers to increase their advances by resorting to the idea that the *bon prix* is a price which during the course of a lease, more than covers the costs of cultivation and rent, leaving the farmer a surplus which can be used for accumulation. This kind of profit must be considered as 'temporary', and in a sense similar to the second kind of profit distinguished by Turgot in the passage above: existing only because competitive conditions do *not* fully and immediately

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113 If this were the case, not only Turgot, but many later classical economists who see profits as partaking in the social surplus, and at the same time as 'price determining', would be inconsistent.

114 The passage also constitutes a nice example of Turgot's clinical analytical mind. What makes Turgot such a brilliant theorist is that he develops strict analytical categories with practical content (in this case for example, the different items of profit, relate to the various aspects of 'entrepreneurship': risk taking, organising, advancing of capital, competing). It is a great mistake to believe that the use of well defined economic categories implies that the theorist must be describing a perfectly working economic system. This passage is a case in point. Turgot freely admits that competition may be absent in some activities, giving rise to profits which would otherwise not be made. He is far too subtle a thinker to deny such empirical facts. At the same time he is far too thorough a thinker for those facts to detract him from systematical theorising. Morellet also shows a talent in this direction. Cf. note 47 above.

prevail.<sup>115</sup> In Turgot's theory entrepreneurs have a more stable source of accumulation, namely the 'pure' return on their capital.

A final difference with the physiocratic views on accumulation seems to be closely related to the above. It is Turgot's assumption that saving out of profits (and rents)<sup>116</sup> takes place purposefully in order to form additional 'active' capitals and thereby to obtain more profits:

The immediate result [*l'effet immédiat*] of this thrift is the accumulation of moveable capitals, and those capitals are only accumulated for the purpose of obtaining a revenue or annual profit, which can only be done by employing this capital (1766:116).

He further argues that in concrete terms '[...] almost all savings are made only in money', but since the aim of this activity is to obtain a return on savings, money-capital is converted 'immediately [*sur-le-champ*] into the different kinds of effects on which [...] enterprises depend' (1766:95). This implies that Turgot assumes there to be an almost automatic identity between savings and investment, a view which mainly through Smith's insistence on the same point became an important notion in later classical political economists.<sup>117</sup>

Quesnay for his part is not of the opinion that all savings are immediately invested. His preoccupation with the spending of incomes in order to effect a large demand and *bons prix* for

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115 As was noted in section 7.2.2, Turgot on at least one occasion invokes the physiocratic notion of agricultural profits. Cf. Morilhat (1988:166). Of course, it is a perfectly acceptable explanation of profits. It is just not a 'competitive' one.

116 Turgot states that besides profits, capitals are also saved 'bit by bit' out of rents (See 1766:80 and 1767a:116). However, he also argues that landowners are more inclined to luxurious consumption, and that entrepreneurs are more reliable savers (1766:94; see above 7.3.1). By characterising the spending behaviour of the landowning class, Turgot is following physiocratic opinions. Direct textual evidence for this can be found in Turgot's comments on *Impôts*. In that article Quesnay states: 'It is necessary that the proprietors of landed property, who receive this revenue, should spend it annually so that this kind of wealth is circulated among the whole nation. Without this circulation the state would be unable to subsist; if the proprietors held back this revenue, it would be very necessary to deprive them of it. Thus this sort of wealth belongs as much to the state as to the proprietors themselves; the latter have the enjoyment of it only in order that they should spend it' (1757c; translation Meek 1962:104). Turgot comments on this passage: 'Since one can only enjoy by spending, it should not be feared that the proprietors will stop spending' (1757c:582). Turgot does thus not seem to disagree with the physiocrats on the point that the principal function of landowners is consuming, not saving.

117 See Schumpeter (1954:324-7) and Groenewegen (1969). Garegnani (1984) emphasises the point that most classical economists assumed an *automatic* identity  $S=I$  (that is, an equality which is not perceived as an equilibrium brought about by the mediation of the interest rate between the 'supply' of and 'demand' for savings). This can be said to hold true for Turgot. Admittedly, he argues that the rate of interest is the result of the 'offer' and 'demand' for the 'use of money', but as is argued above in section 7.3.4 the two variables can not really be considered in his work as independent schedules with the current rate of interest as their equilibrium point. Turgot's insistence on the immediate re-investments of savings is likely to be a direct response to Quesnay's misgivings about the role of money capital in the economic system. His opinion that entrepreneurs and capitalists always save-to-invest can be seen as argument that there is nothing in the 'true circulation of money' which will upset the system of reproduction. Schumpeter (*ibid.*) expresses some regrets about this. Indeed, the eventual relaxation of the assumption by Keynes would enrich as well as complicate the theory of the circulation of wealth by allowing for an independent role of monetary phenomena in the economy.

(agricultural goods), leads him to warn repeatedly against the formation of 'monetary fortunes', or hoarding (see section 4.4.2). However, these warnings are accompanied in some cases by the qualification '[...] or at least that those [money capitals] which are formed are counterbalanced by those which come back into circulation' (See 1759a:120; cf. 1767a: 233, 244). This indicates that Quesnay is not against saving *per se*. Moreover, Turgot does not actually disagree with Quesnay that the simple hoarding of precious metal 'in the chests of misers' is an undesirable, and almost pathological social phenomenon.<sup>118</sup>

The difference between the views of Quesnay and Turgot on saving is mainly a matter of emphasis and clarification.<sup>119</sup> The preoccupation of Quesnay and his closest followers with the productive expenditure of incomes, leads them to some extent to neglect the point that in order to increase advances one first needs to save out of the surplus. As Turgot stresses, this is a process which in a modern society takes place in the form of the accumulation of money-capitals. This point forms the precise content of the disagreement between Turgot and Dupont. In a long note to section 77 of the edition of the *Reflections* which appeared in the *Ephémérides* (section 78 in later editions), the latter argues that it is not saving [*épargner*] but expenditure which increases production which allows capital formation. Turgot takes this note, quite correctly, as an attempt to gloss over the differences between him and Quesnay on the issue of accumulation. He writes to Dupont:

What a correction [...]! Confusing the employment of capitals with the formation of capitals! Calling expenditure, receipts, and imagining that saving and hoarding [*épargner et thésauriser*] are synonymous! What a reversal of ideas, or rather of language, and that to hide some wrong expressions which escaped the good Doctor [Quesnay] in his first writings. Oh! sectarian spirit (Turgot to Dupont, letter lxxii (23/3/1770), in Schelle 1913-23, III 383).

Perhaps the main reason for Turgot's angry response is that Dupont, glosses over an idea which the former develops quite carefully.<sup>120</sup> It is the point that saving and investing are two separate moments of accumulation, a distinction which actually manifests itself in the fact that saving can be seen as the transformation of produce into precious metals, and investing as a transformation of precious metals back into means of production. The fact that Turgot maintains that this process takes

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118 Quesnay and Turgot are not at all alone in this respect, many contemporaries condemn the hoarding of money. See Johnson (1966:626) who, besides the physiocrats, quotes Coyer, Graslin, Forbonnais, Condillac, Sérionne and Melon on this point. Meek (1962:319-20) argues that the hoarding of money was generally condemned from the early mercantilist writers through to the later classical economists of the 19th century. Cf. note 38 above.

119 This interpretation is given by Spengler (1945:324-5), Meek (1962:320) and Johnson (1966:628).

120 In his later remarks on Turgot's treatment of savings and investments in 'Observations on a Paper by Saint-Péray', Dupont accepts the former's distinction between saving and hoarding. There Dupont specifies that Quesnay had only objected against hoarding: 'M. Turgot says with reason that without savings [*économies*] capitals could not be formed; and M. Quesnay [says], with no less reason, that with hoarding [*thésaurisation*] capitals would be formed more slowly and less usefully, since a delay in activity [*travail*] would result from it and disadvantages in demand [*débit*]' (*Daire Oeuvres* 427 n).

place almost 'immediately', does not take away that the two are two separate phenomena. This is evident in the market for loans where savers ('capitalists') and investors ('entrepreneurs') are actually distinct parties.

To a large extent, the *Reflections on the Formation and Distribution of Wealth* are indeed precisely Turgot's attempt to integrate his analysis of money capital and interest into '[...] the rest of the system of the distribution of wealth in society' (1766, section 29). As argued in sections 7.3.4 and 7.3.5 above his attempt is not free from unclarities and flaws. However, this is hardly surprising considering the fact that no earlier writer is very successful in this respect, and the cursory nature of his writings. However, it does certainly not prevent the conclusion that the extent to which Turgot is able to incorporate his highly original theory of accumulation and profit into the physiocratic surplus model is the most significant of his theoretical contributions.

#### 7.4. Isnard's theory of capital

Isnard's views about capital, profit and interest constitute some of the more obscure and at the same time most fascinating aspects of his work. The interpretation of the passages which he devotes to this issue is made difficult, first, by his adoption of a rather ideosyncratic and somewhat inconsistent terminology, and second, by the fact that his full discussion can not be found in a single place.<sup>121</sup> Third, and more substantially, it may be said that the tortuous nature of Isnard's writings on the issue, to an extent reflects the difficult nature of the subject matter itself. Still, the interpretation of Isnard's theory of capital is facilitated by placing it in the context of the theories of Quesnay and Turgot, discussed in the previous sections.<sup>122</sup> In particular, a comparison of Isnard's ideas with Turgot's theory of capital appears to be suitable, since the two men share a number of similar views. In fact, as will be shown, it seems probable that Isnard derived some of his ideas from the *Reflections*.<sup>123</sup> On the whole, Turgot's theory of capital is certainly more systematically developed.

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121 The three most relevant sections are I, II, section v. entitled 'Of the interest of wealth, of the value of land [*biens-fonds*], and of the interest of money' (pp. 29-34); I, II, section vii, article 3 'Of the quantity of fixed capital' (pp. 48-50); and I, III, section v, article iv, called 'Of the freedom of loans and of the interest of money' (pp. 279-87). All modern commentators on Isnard's theory of capital, Jaffé (1969), Theodorakis (1983), Klotz (1994), seem to have used the first two sections exclusively. However, for the understanding of Isnard's ideas, the later section in book III, is highly relevant.

122 The few writers who have looked at Isnard's ideas on capital (see previous note), are concerned with the comparison of Isnard's treatment of fixed capital to that of Léon Walras. Here it is suggested that while the possible connection with this famous later theorist is an interesting one, it is not the most relevant context for the understanding of Isnard's theory of capital in its own right.

123 It is difficult to be certain that Turgot directly influenced Isnard's theory of capital. Isnard nowhere acknowledge his indebtedness to the *Reflections*. However, the few passages in the *Traité* which show textual resemblances to the former text quite strongly suggest a connection. See especially the similar notion of the 'fluidity' of capital (p.243 below), the idea that interest is not related to the quantity of money in circulation,

However, in one important respect Isnard's analysis goes beyond Turgot. Isnard addresses the difficult theoretical issue of the valuation of capital. In the next section Isnard's approach to the theory of capital is compared to that of Quesnay and Turgot. In the following section Isnard's ideas on the valuation of capital will be dealt with.

#### 7.4.1. Definition, movement and accumulation of capital

##### a) Isnard's definition of capital

The term which Isnard most commonly uses to denote capital goods is *richesses foncières*.<sup>124</sup> Generally, as in Quesnay's theory, what defines a commodity as being capital is that it is used in the reproduction of commodities. This is well expressed, for example, in the following passage: There is wealth which is destined for immediate enjoyment [and] there is other [wealth] destined for production: among the latter, there is [wealth] of which the productive properties are durable, and which yields products, either after repeated periods, or during a period which one can divide into regular parts. We will call this fixed capital [*richesses foncières*]: it mainly consists of workshops, warehouses, barns, mills and factories, ships, cars and productive animals, machines, instruments, tools, and productive aids (Isnard 1781, I:30).

Here Isnard distinguishes, first, between commodities which are used for (final) consumption, what he calls *jouissances*,<sup>125</sup> and commodities used for reproduction.<sup>126</sup> Second, he distinguishes between durable and non-durable means of production. The latter distinction is only made implicitly though, by the observation that durable commodities are only part of the commodities used in production. Only when discussing agricultural expenditure in particular, Isnard explicitly distinguishes between the *dépenses primitives* and *dépenses annuelles* (I,64).<sup>127</sup>

Somewhat curiously, what Isnard calls *richesses foncières* appears more or less identical to what Quesnay calls *avances primitives*, or fixed capital. It has to be noted though that in several

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but to the mass of accumulated capitals (p. 247), and the use of the word 'thermometer' (below n.144). Still, it is regrettable that Isnard did not adopt Turgot's views in a more systematic manner.

124 Other terms he uses are *choses propres à la production* (I, 30), *richesses productives* (I,32), *moyens de la production* (I, 93), *capitaux productives* (I,284), and *fonds productives* (I, 285). It is not clear whether Isnard sees all these terms as perfect synonyms. Only the term *richesses foncières* is precisely defined, and for want of a better term is here translated as 'fixed capital', in the understanding that Isnard sometimes also appears to include land in this category.

125 See especially the section *Des dépenses dans le rapport qu'elles ont avec les jouissances & les dissipations* (I,92-108).

126 The distinction between final goods and intermediary goods is also made in the following rather physiocratic sounding note on pp. 34-5: 'In the analysis of the wealth of a nation that what constitutes the costs [*les frais des richesses*] is often confused with consumption goods [*les richesses de la consommation*]: the former are the means the latter the goal; [...] One will see in the rest of this work of which importance the distinction between costs and disposable wealth is'.

127 In this section, entitled 'Of the relation of expenses to agriculture' (I, 60-73) Quesnay's influence is especially evident. His *Encyclopédie* articles 'Farmers' and 'Corn' are cited.

places one gets the impression that Isnard also includes the physiocratic *avances foncières* in his definition of *richesses foncières*, for example when he speaks of 'the owners of moveable and immovable fixed capital' (*richesses foncières mobilières & immobilières*) (I,38). Quesnay's main reason to insist on the distinction between *avances foncières* and *avances primitives*, is that the former are supposed to be the advances made by landlords for improvements to the land, while the latter are part of the advances made by the farmers in producing the annual output. In physiocratic theory the distinction has direct implications for the distribution of the agricultural produce. The surplus produce is understood to devolve to the landowners, while the farmers only recoup the value of their advances. A tempting explanation of why Isnard does not recognise this distinction, is that it is a willful denial of the privileged role given to land by the physiocrats as the only productive factor. In opposition to this doctrine, Isnard insists that *all* productively employed capital is capable of returning some surplus to its owner.<sup>128</sup>

As noted, Isnard criticises the *économistes* for not regarding 'the interest of wealth [*i.e.*, profit] as a disposable product', and only considering the return to capital advanced as covering its cost (I, 41 n). In contrast to this position, Isnard formally divides the return on capital into two parts, the necessary costs and the surplus:

That what remains after deducting from the product of capital [*richesses foncières*], or from the value of the useful qualities produced by this capital, the costs [*valeur des richesses*] necessary to the maintenance, the repair and the replacement of capital, is the surplus which is the interest on capital [*le surplus est l'intérêt des richesses foncières*]; this is wealth which yields in exchange to every producer wealth which he employs in production. That interest is perpetual, because it is such that the owner does not lose his capital, since we have subtracted the costs necessary to maintain and replace the capital from the total quantity of wealth received annually, in exchange for the annual utility of the productive fund (I, 31).

With respect to the 'maintenance, repair and replacement' of capital, Isnard assumes a linear rate of amortization which is determined by the durability of capital:

The quantity of capital [*richesses*] necessary to renew capital [*richesses foncières*] is equal to the value of that capital divided by its durability. Supposing that the sum of capital of a same type is B, [and] that it lasts nine years, and that the replacement is uniform, then it will every year be replaced by one ninth. In general, if *d* is the time which the capital of some type lasts, of which the total mass is B, [then] the value of the annual replacement will be equal to B/d (I:32).<sup>129</sup>

The explicit relation Isnard establishes between the durability of capital and the rate of depreciation,

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128 As a consequence, Isnard tends to treat the landowners as part of the class of capitalists (see chapter 5). A further possible reason why Isnard treats land in the same manner as (other) fixed capital is that he believes that the 'productive properties' of land are also in a sense man-made. Paradoxically enough, this opinion would come close to some views on rent of the younger physiocrats. See section 8.3.1. For Isnard's treatment of rent see section 8.3.2 below.

129 He immediately adds: 'This only applies to capital of which a constant durability is supposed. Otherwise the value of capital which is deemed necessary for replacement, [as well as] the interest of that capital, varies as the result of accidents which can [only] be foreseen with more or less precision.'

improves on what Quesnay or Turgot have to say on the subject. As we saw, the former simply assumes the 'necessary costs' of fixed capital to be 10% of the stock of durable means of production in agriculture, without precisely explaining why. If anything, Turgot's position is less clear.<sup>130</sup> Only Isnard unambiguously expresses the notion of linear amortization. While this idea may appear a rather basic one, it should be realised that it was only improved upon about fifty years later when the more sophisticated annuity formula was first applied to the issue of depreciation of capital, and then only by some economists.<sup>131</sup>

With respect to the net return to capital, or 'pure' profit, it is important to note that Isnard treats this return as a rate over fixed capital only. For an interpretation of this neglect of the annual advances, and the disregard for the economic argument that profit as a return on capital should be calculated over fixed *and* circulating capital, it is interesting to compare Isnard's *richesses foncières* with Turgot's general concept of capital, the *richesses mobilières*. As we have seen, Turgot understands the latter category to consist of the stock of durable commodities in society. The actively employed part of this stock is understood to yield a return. With this idea in mind the mistake is easily made of assuming that *only* the durable means of production should yield an interest. Interestingly, this mistake is actually initially made by Turgot.<sup>132</sup>

However, in the *Reflections* Turgot adopts the conception of profit as a return on both circulating and fixed capital. Turgot's definition of moveable wealth can even be said to include annually reproduced capital since it not only consists of 'articles of a more durable nature, whose value would not be destroyed by time', but also of articles 'which could be employed in such a manner, as to procure profits which would more than make up for their deterioration'.<sup>133</sup> This conceptual subtlety seems to be lost on Isnard. The difference between Turgot and Isnard on this point may further be explained by the fact that they tend to see the social relations of production differently. As argued in chapter 5, Isnard does not consistently assume the existence of an entrepreneurial class which organises production. Instead, most commonly and rather vaguely, he

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130 In 'Plan for a paper on taxation' (1763), Turgot states that the '[...] maintenance and the replacement of their [*i.e.*, the original advances] inevitable decay [has to be] at last equal to the interest [...]'. Why this should be so is not explained. Cf. note 91 above.

131 In 1831, basing himself on Ricardo's analysis, Whewell draws up the annuity formula. See Campanelli(1982). While Whewell was probably the first to apply it to calculate depreciation charges, the annuity formula was used earlier to calculate compound interest rates. See Charles-François Biquille (1799:19-20) [1995:87-88]. As Klotz (1994:46) notes, like Isnard, Walras still supposes linear amortization. Whether this means that the latter got the idea from the former is more questionable. For some critical remarks on Walras' treatment of depreciations which is 'mathematically simple, [but] from an economic point of view [...] unacceptable', see Kurz and Salvadori (1995:210).

132 See note 91 above. He assumes that 'interest', which is distinguished from depreciation, is received over the *original advances* only.

133 If the 'deterioration' of some input is 100% each year then it is an annual advance.

imagines 'capitalists' to be owners of durable capital goods who receive a return to their possessions.

b) *The movement of capitals*

Whatever the precise reason for Isnard's neglect of the annual advances in his theory of profit, it should be acknowledged that his perception of the rate of profit is a little peculiar as a result. This can be seen in the following remarkable description of the tendency towards a uniform rate of profit, which may well have been inspired by Turgot. Trying to imbue the idea of the movement of capitals with a typical formal precision, Isnard argues:

Fixed capitals (*richesses foncières*) distribute themselves to serve the different uses in agriculture, industry, and commerce, in a way that their values will be in the same ratio as the offers which are obtained in exchange for their products, minus the costs of upkeep, repair, and replacement, in order that the ratios of the funds to the interest will be uniform in the different enterprises. This uniformity takes place, and equilibrium establishes itself, because the funds make themselves available, and flow to the places where the interest is highest, and for the same reason as that similar things have the same value, when things have a higher price in one place than in another, they flow there and equilibrium reestablishes itself. Let  $F$  be the value of the funds employed in agriculture, and let  $F'$  be that of the funds employed in industry; let  $B$  be the sum of offers given for the value of the products of [the former capital], minus the costs of upkeep, repair, and replacement, and  $B'$  the sum of offers given for the value of the products of [the latter capital], minus the same costs. It is necessary that the ratio of  $F$  to  $F'$  be equal to the ratio of  $B$  to  $B'$ , in order that the ratio of  $F$  to  $B$  be equal to the ratio of  $F'$  to  $B'$ , or in order for the rate of interest to be the same. This uniformity is not only achieved between agricultural and industrial enterprises in general, but also between all particular enterprises (I:48-49).<sup>134</sup>

A few observations can be made about this passage. First, like Turgot, Isnard uses the metaphor of the *fluidity* of capital. While Turgot invokes the analogy between the movement of capitals and the balancing of liquids, Isnard imagines that funds 'flow to the places where the interest is highest'. Whether the portrayal of capital as a fluid means that either theorist is substantially indebted to natural philosophy for the important idea of the movement of capitals, is open to speculation. In Isnard's case the connection seems reasonable considering the fact that he was a trained engineer.<sup>135</sup> It should be noted that one does not find the same imagery in Adam Smith, the other theorist of the period who describes the tendency towards a uniform rate of profit.

Second, unlike Turgot, in the above passage Isnard pays little attention to the differential in returns between employments due to differences in 'risk' and 'entrepreneurial labour'. Instead he

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<sup>134</sup> The term *richesses foncières* is translated by Jaffé (1969:40) simply as 'capitals', ignoring the problem with Isnard's term. He comments on the passage that 'Walras wrote virtually the same thing in paragraph 286 of the first edition of the *Eléments* [...]' (ibid. 41) and that therefore it constitutes '[p]erhaps the most remarkable trail that Isnard blazed in advance of Léon Walras's construction of an elaborate mathematical highway [...]' (ibid. 40). Klotz (1994:47) seeks to qualify this opinion with the remark that here Jaffé's 'enthusiasm borders on lyricism', but accepts that the views of the two men are similar in the sense that both assume that capitals are mobile, and attracted by activities which yield the highest return. One should add that Isnard and Walras are not exactly unique in this respect.

<sup>135</sup> Ingrao and Israel (1990:66) play down a possible 'analogy with mechanics'.



stresses the uniformity of the 'pure' return on capital which tends to establish itself between alternative employments. However, it should be noted that Isnard here only considers the return on capital in 'agriculture, industry, and commerce'. Like Turgot, he recognises that the returns on money invested in land, and on loan capital are normally lower. Indeed, the fact that Isnard explicitly relates the rate of profit, or the return of capital employed in agricultural, industrial and commercial enterprises, to the return in the two employments, *i.e.*, rent and interest, suggests the influence of Turgot (cf. section 7.4.2 below).

Third, the formula  $B/F$ , where B is the value of the output minus the 'costs of upkeep, repair, and replacement', *i.e.*, the surplus devolving to the owners of (fixed) capital, and F the value of fixed capital, expresses profit as a return over fixed capital.<sup>136</sup> This confirms what has just been remarked about Isnard's neglect of the annual advances. To appreciate the difference with Turgot's theory of profit, one may argue that it would have been quite easy for Isnard to include the annual advances in the formula by rewriting it as  $B/F+A$ , where A stands for annual advances. The content of the term B would also be altered. Instead of being  $O-dF$ , it would become  $O-(dF+A)$ , where O is value of the output and  $dF$  the depreciation of fixed capital. It seems very unlikely that this small alteration would have gone beyond Isnard's mathematical abilities. Instead the reason why he does not make it is probably due to conceptual difficulties.

### c) *Accumulation*

Despite the latter difference, the resemblance of Isnard's views on the movement of capitals with Turgot is quite striking. Further similarities concern the accumulation of capital and the relation between loan capital and reproduction. In several places Isnard argues that capital accumulation must be seen as saving out of the surplus aimed at increasing the productive capacity of the economy. This way of spending the surplus is 'optional', since there is an alternative in luxurious consumption. The notion of accumulation as spending on fixed capital out of the surplus is clearly expressed in the following passage:

[...] of the total sum of wealth, there is really, and abstracting from values, one part employed in production and another [which is] used for enjoyment. The producer deducts from the selling price of every type of commodity, the price of the primary materials which he has employed or consumed in production, the price of the labour of the workers which he has paid, and the value of the upkeep, repair and replacement of fixed capital. *He can dispose of the rest according to his desires and his enjoyment, or [he can use it] to increase the mass of productive wealth.* This portion, which the owner can enjoy freely, constitutes the mass of

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<sup>136</sup> Somewhat confusingly, while the letter B denotes 'net return' in the above passage, it indicates 'gross return' in an earlier passage (I,31) which deals not with the tendency towards a uniform rate of profit, but with the determination of that rate. See below section 7.4.2

disposable wealth; it is the noble part of goods; it is the part which the owners enjoy nobly (I, 35-6; emphasis added).<sup>137</sup>

Accumulation is thus perceived by Isnard as a circular process of surplus production and reinvestment of part of the surplus in order to increase the productive capacity of society. He explicitly includes 'idle accumulators', or 'capitalists' into this process. Unlike Quesnay, and very much like Turgot, he argues that rentiers indirectly contribute to production by making their capitals available to producers.

It are the savings upon the revenue which maintain, renew, or create the productive funds. One [person] enjoys little in order to increase his reproduction, the other enjoys little in order to save his money; but, by means of loans, that money [of the latter] is placed so as to maintain reproduction; in this manner the skimping of the miser becomes profitable to the state. When gold has been locked up in the coffers of a miser, it is a metal which can be taken from the deposit at little cost by his heirs. If that accumulated treasure is employed in the creation of productive capitals, then it is a great good for the reproduction, because that employment augments the relation between productive expenditures and useful expenditures (I,94).<sup>138</sup>

The notion that the money savings of rentiers are directed to 'productive employments' through the loan market, and that lenders are consequently remunerated through the payments out of the surplus generated in production, is developed by Isnard in a later section.

Loans made for production are very advantageous; they gather and coordinate the funds in productive places, and they can complement the already existing productive causes. Interest on [these loans] is taken out of [*pris sur*] reproduction, but it matters little who receives the interest when the funds are employed in production. By means of loans the military man, the noble man [*l'homme de robe*], and the financier direct their savings to agriculture, industry and trade, and contribute to reproduction from which they withdraw every year a part, by means of the interest which the parties have agreed upon ( I, 279).

'Productive loans' are rigorously distinguished by Isnard from loans made for luxurious consumption [*jouissance*]. The latter

[...] lead to dissipation and are ruinous not only for the individual, but also for the state, because [loans for consumption] divert funds from the route which they take for the reparation, upkeep, or augmentation of productive wealth, and prevent them [*i.e.*, the funds] from working towards reproduction, while the interest paid on [those loans] is taken out of reproduction [...] (I,179).<sup>139</sup>

There appears to be a clear analytical similarity between 'the route which [funds] take for the

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137 See also I, 144: 'It is the hope of the producer to reimburse, through sale, the costs [of production] and a part of the disposable wealth [*richesses disponibles*], [which he then uses either] *for his consumption or for savings which are spend productively*'.

138 The last term 'useful expenditures' (*dépenses usuelles*) is a little strange but presumably indicates the spending on (final) consumption goods.

139 Isnard is much more strongly opposed to *borrowing* for luxurious consumption than to luxurious consumption per se. The latter only becomes harmful if it exceeds the disposable wealth of society. See p.94: 'The multiplicity of expenditures would be dangerous if it would diminish the means of reproduction, that is to say, if the reproduction would start to decline; the expenditures would then be wasteful (*dissipatrices*).' In contrast, borrowing for luxurious consumption is understood by Isnard as being harmful to reproduction in all cases. This is because in those cases interest is paid which is 'taken out of reproduction'.

reparation, upkeep, or augmentation of productive wealth', and Turgot's perception of the 'true circulation of money'.<sup>140</sup> However, Isnard does not place the same stress as Turgot on the *immediate* re-investment of savings (see section 7.3.6 above). The former does not appear to share the same awareness of the theoretical importance of this point.

On the other hand, the consequences that Isnard draws from the perception of the re-investment of saved money-capitals for the relationship between the rate of profit and the interest rate, are less ambiguous than in Turgot's case. He clearly confirms that the predominant motive for borrowing money is the financing of enterprises. Competition in the 'market for loanable funds' is pictured in the following way:

On the one hand, the desire of producers to increase their productivity and their profits, and [for this reason] to borrow and to obtain the preference over one another, tends to raise the interest of money; [on the other hand] the competition among lenders and the abundance of saved capitals [*capitaux*] tends to lower it (I, 34).<sup>141</sup>

According to Isnard, the rate of interest paid on loans for productive purposes has definite limits: '[t]hat interest is naturally proportioned to the product of the expenditures of money-capital' (I, 281).<sup>142</sup> In other words, it is the rate of return obtainable in a productive employment that limits the rate of interest producers are prepared to pay for the use of money-capital. Competition in the loan market ensures that

[t]he interest on money tends to become similar to the interest of wealth [*i.e.* profit], because every capitalist tends to draw the same product from his money as when he would be producer himself, but many causes prevent the interest on money from arriving at that goal (I,34).

In Isnard's case there can be little doubt about the direction of causation understood to exist between profit and interest: interest is invariably 'taken out of reproduction' [*pris sur la reproduction*].<sup>143</sup>

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140 See above section 7.3.2. Also compare the following passage with Turgot's opinion that free interest rates will bring 'idle' capitals into 'productive circulation' (above note 64). Isnard notes: '[t]he interest which the chief of the enterprise pays annually to the capitalist, relative to the product which [the former] draws from his capital, is a means to remove from consumption and dissipation the savings of all classes of society and to direct them to production' (I,280).

141 In a passage reminiscent of Cantillon and Turgot, Isnard asserts '[...] that interest is determined in the markets, or in the agreements between borrowers and lenders, like [the price of] all products, foodstuffs and merchandises [...]' (Isnard 1781,I, 281).

142 This 'natural proportion' is contrasted by Isnard to the rate of interest that people are prepared to pay on loans intended for luxurious consumption. These rates have 'no limits but the extent of the passions [of squanderers]' (I, 285). For this reason, while maintaining, like Turgot, that 'political legislation [...] often harms producers' (I, 280) by making borrowing difficult, Isnard does not oppose usury laws in so far as these are intended to counter excessive interest rates on loans made for luxurious consumption. Isnard argues that '[i]t is easy to distinguish between interest and usury; interest is the agreement of the producer; usury is the agreement of the squanderer [*dissipateur*]' (I, 281).

143 This is true both for interest paid on loans by producers and 'squanderers'. See the two citations of p. 279 of the *Traité* above in the main text. See also his assertion that if 'natural competition' is established in the market for loanable funds, then '[t]his competition tends to bring the interest on money towards the general

Interestingly, up to a point Isnard also follows Turgot in the opinion that the rate of interest is affected by the progression of capital accumulation in society. He suggests that money capitals are part of the general stock of capital in society, by maintaining that

[i]t is not exactly the abundance of money which diminishes the rate of interest, it is the abundance of capitals destined for production, it is the multiplicity of savings, in favour of production, made on the wealth suited to consumption' (I, 34).

The idea that the 'abundance' of capital affects the rate of interest is restated more formally in the section 'Of the quantity of fixed capital' in the following three theses:

2. If it were possible that the fixed capitals of agricultural, industrial, and commercial enterprises, were in such great quantities, and so much within the means of the ones who employ them, that no offers would have to be made in order to obtain the preference when purchasing the products of those capitals, [then] the interest would be reduced to zero.
3. The more the [quantities of] fixed capitals increase, the offers remaining the same, the more the [rate of] interest falls.
4. The more the sum of offers [for the use of capitals] increases to attract the preference, the more the [rate of] interest rises (I, 49-50).

Theses 3 and 4 are similar to the ideas of Turgot and Morellet, (see above section 7.3.4), that the greater demand for loan capital for active employment tends to increase the rate of interest and the greater amounts of savings tends to decrease that rate.

However, Isnard is also critical of the opinion that a low interest rate is a sure sign of the prosperity of a country, an idea which Turgot appears to adopt from Hume. Isnard maintains that Several causes of prosperity work individually towards the raising and lowering of the interest on money and the interest on wealth; these increases and falls can thus not be the thermometer of the prosperity of States (I, 284).

Against Hume, Isnard argues that instead of indicating prosperity, '[...] a low [rate of] interest on money in a country can have as cause the deficiency of employment of capitals' (*ibid.*).<sup>144</sup> Considering his assumption that both the supply of (thesis 3) and demand for (thesis 4) loan capital is understood to influence the interest rate, this is an understandable position. However, Isnard does

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interest on productive funds [*l'intérêt general des fonds productifs*]' so that '[...] men of all estates can share, by means of loans, in the produce of enterprises' (I, 285; emphasis added).

144 The reference to Hume is in note (y) on the same page: 'M. Hume maintains that the low price of interest on money is a nearly infallible sign of the prosperity of a people'. *Inter alia*, it is relevant to note that Hume did not actually compare the rate of interest with a thermometer. Instead, as we saw, Hume states that '[...] interest is the *barometer* of the state, and its lowness is a sign almost infallible of the flourishing condition of people' (Hume 1752:327). The mix up of thermometers and barometers is probably not simply a slip of Isnard (which would be curious for a trained engineer). Rather it seems that Isnard repeats not Hume's, but rather Turgot's analogy. Turgot writes in the *Reflections* that '[...] the current interest of money placed on loan may be considered as a kind of *thermometer* of the abundance or scarcity of capitals in a Nation [...]' (Turgot 1766:87). Considering that Isnard nowhere directly refers to the *Reflections*, this slip may be considered as a significant textual hint.

not provide any explanations of what could cause the 'deficiency' in the employment of capital.

Another difference with Turgot is that Isnard relates falls in the interest rate more directly to a decreasing rate of surplus that may result from the expansion of production. In general, Isnard argues that the expansion of production has an indeterminate effect on the rate of surplus produced:

The abundance of productive capitals, by diminishing the interest of loans, tends to increase production, and the increase in production tends to increase the interest (I,284).

However, Isnard provides two arguments why the rate of interest may fall. On the one hand, he seems to say that fixed capitals may get to be employed in such large quantities, and consequently the produce of these capitals may become so abundant relative to the effectual demand for it, that the owners of these capitals will not share in the surplus at all. Consequently, the profit rate [*intérêt des richesses*], would become zero (see thesis no. 2 on the previous page).<sup>145</sup> The fall in the rate of profit would thus be caused by the 'overproduction' of the products of capital. It has to be said that Isnard does not provide any argument why this may happen. Perhaps he formulates the idea as a purely theoretical case.<sup>146</sup>

On the other hand, Isnard associates the fall in surplus value with an increasing difficulty of production accompanying the expansion of production. In other words, he hints at the existence of diminishing returns. In his own words, the rate of profit may fall,

[...] because industrial and commercial enterprises can grow and multiply, like agricultural enterprises, in a manner that those productive advances, added to the [already employed] general sum of productive wealth, raises the ratio of the productive funds to the reproduction, *when, for example, the new enterprises produce less relatively to the costs, than the preceding enterprises* (I, 284; emphasis added).

While this passage expresses tolerably well the notion of diminishing returns, not only in agriculture

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145 This idea is analogous to his explanation of the situation in which 'workers' would not share in the surplus (see section 6.5 above).

146 A further opinion of Isnard with respect to the abundance of capitals, relates to the effect of the profitability of capitals on their own prices and on their production. It is argued that the great profitability of capitals, measured by the ratio between 'their' surplus product and their values, leads to an increased production of durable capital goods, which in turn will lead to a greater production of consumption goods: 'The more the funds tend to produce their greatest possible effects, [...], or the lesser their quantity will be to achieve a same effect, the lower will be their value relative to their product. The lower this value is, the higher the interest on those riches will be, supposing that the offers remain the same, or until a change in offers takes place. As a result of this fall in the value of fixed capital because of a similar effect, new [means of production] could be produced, [and this] could result in the increased production of consumption goods. This real increase in wealth will either be shared between producers and consumers, or will be obtained [in full] by either of them, according to the changes which will take place in the offers or the values. It is therefore the same with the effects of funds as with the effects of human activity: one has to reduce both with respect to their particular effects, and multiply them with respect to the general product' (1781:I,50).

but in the economy in general, Isnard hardly pursues this idea.<sup>147</sup> Instead, like many other principles, it is stated as a possible economic phenomenon, not one which will necessarily set in at some specific level of production.

Still, the above passage indicates what according to Isnard is the most fundamental determinant of the rate of profit and interest in the economy, *i.e.*, 'the ratio of the productive funds to the reproduction'. A term Isnard uses for this rate is the 'interest of wealth' (*intérêt des richesses*), which is in effect the 'value of the surplus product of fixed capital over the value of fixed capital'. In discussing this notion, the questionable honour befalls Isnard of arguably being the first economic theorist to be clearly faced with the problem how to determine the value of man-made means of production that last longer than one round of production.<sup>148</sup> The fact that, much more recently, economists have acknowledged the gravity of the theoretical difficulties which the measurement of fixed capital creates, not only exonerates Isnard to some extent, but also adds to the relevance of his ideas on this issue.<sup>149</sup>

#### 7.4.2 The rate of profit and the value of capital

Before looking at Isnard's ideas with respect to the valuation of fixed capital, it should be noted that Isnard distinguishes three interrelated ratios of return, the return on land, the return on money capital, and, what he calls 'the general return on productive wealth'. The distinction is made most clearly in the following passage:

[...] there are three things to consider with respect to the rate of interest: 1. The interest of money or of loans. 2. The general interest of wealth, or the relation of periodical production to the mass of durable capital and the costs of upkeep, repair and renewal. 3. The relation between the price of land and the annual product of that fund (I, 282).<sup>150</sup>

Isnard argues that there is a correspondence between these ratios, and suggests some mechanisms through which this correspondence is effected. In describing these mechanisms he is quite precise about the order of causation. A central place is given to what Isnard calls the 'general interest of wealth' [*l'intérêt général des richesses*]. This rate is taken to be the one to which the other

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147 As we will see in section 8.2, Isnard seems to deny the immediate relevance of diminishing returns in agriculture.

148 Kurz and Salvadori (1995:208-9) argue that fixed capital is only first treated with any precision by Torrens and Ricardo. Not only does Isnard's discussion predate that of these Englishmen, it is also different in the sense that he does not consider fixed capital as a joint product. However, a sense in which Isnard is similar to Ricardo is that he attempts to formulate a material rate of profit (see the end of section 7.4.2).

149 This is of course an allusion to the capital controversy debates of the 1960s and '70s. A series of good essays on different aspects of these debates are *The New Palgrave Capital Theory* (1987). Also see Kurz and Salvadori (1995, ch. 14).

150 The same three rates are already indicated in the title of section I,II, v. (see note 121 above).

two, the 'rate of rent' and the interest on money-capital, tend to conform. In some respects Isnard's distinction between these three rates is reminiscent of Turgot, and may well have been influenced by the latter.

However, a possible difference with Turgot's treatment of the five employments of capital (see section 7.3.3), is that Isnard's 'general interest on wealth' does not exactly correspond to Turgot's return on capital advanced to agricultural, industrial and mercantile enterprises. Instead, what the former's concept of 'general interest on wealth' appears to express is not the rate of return on capital in any particular form (or employed in any particular sector), but on all durable means of production (sometimes even *including* land).

At the same time, the net return on land is still treated specifically as well, and it is important to note that Isnard unequivocally maintains that this return does *not* determine the general rate of return on capital in the economy, as Quesnay argues it should (see section 8.3.2). Isnard writes:

The valuation of terrains or land [*terrains ou biens fonds*] [...] is posterior to the establishment of the rate of interest; this valuation is ruled by that what this productive wealth can yield. [...] Land has a *valeur fonciere* and a *valeur annuelle*: the first is the selling price, the second is the rental price; the rate of interest determines the ratio between those two values. Nevertheless the value of land, relative to the rent, often differs from the interest of wealth for several reasons which we will discuss later (I, 33).

This perception of the relation between the 'rate of interest', the annual product of land, and the value of land, is similar to the ideas of Turgot and Cantillon. They all argue that the latter is determined taking the former two as given (see section 8.3.2 below). However, an important difference with Turgot (and Cantillon) is that what Isnard calls 'the rate of interest' or more specifically 'the interest of wealth', which functions as the rate of capitalisation, is *not* the current interest rate on money-capital. He clearly states that

[t]he interest on money is also different from the interest of wealth. The interest on money is the periodical payment of borrowers to lenders, or of debtors to creditors on funds which the former enjoy (I,33).

While being a separate variable, the rate of interest on money is understood to tend towards the 'interest on wealth' (see the previous section). In Isnard's theory both the 'rate of rent' and the interest rate on money-capital are thus logically posterior to the interest of wealth [*l'intérêt des richesses*]. Remains the rather more difficult question how the latter is determined.

The fullest treatment is given in chapter II, section v, where Isnard raises the fundamental question how the value of capital goods is determined. He starts his discussion by noting that the valuation of (final) consumption goods and capital goods are ruled by different principles.

[t]hings have values as a result of the effectual demand [*offres*] [for them], and this effectual demand is

determined by the desires and the needs of men: but one can ask what is the value of the means of production [*choses propres à la production*] (I,30).<sup>151</sup>

Here Isnard not only distinguishes between the function of commodities as consumption goods and as means of production, or capital. He also proposes to discuss the principles which determine the (own) price of capital goods, principles which are different than those ruling the price of consumption goods. In comparison, Turgot confines himself to discussing the 'rental price' (or 'pure return') of capital goods, and hardly touches upon the problem of the determination of the own price of durable means of production. That is, Turgot argues that only the value of land should be determined by means of capitalisation over the rent, but he does not propose to do the same for other durable inputs. This Isnard does.<sup>152</sup>

The answer given by Isnard to his question what determines the values of the means of production, or of 'productive riches' (*richesses productives*) is that they only have value 'through their productive properties' (I, 32). Put in another way,

[t]he valuation of terrains or land, of workshops, of real estate, of machines and animals which only have useful qualities in production [...] is ruled by what these productive riches can yield (I, 33).

For the modern reader it is not difficult to discern the following fundamental theoretical problem with Isnard's approach of deriving the value of capital goods from 'their productive properties'. What is required, and what Isnard suggests is possible, is to first determine the 'product of capital', *i.e.*, to distinguish that part of the total surplus which is due to the 'productive properties' of fixed capital.<sup>153</sup> However, as we have seen, he also states that given a physical social surplus, distribution can only be determined by assuming relative prices.

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151 This distinction is not complete since Isnard also allows for commodities which can both be used in (final) consumption and in production: 'Among the things which are suited to production or to forming productive funds, some can only be used for production, and others can be used for consumption and production [...]' (I,30-1). In the subsequent discussion however Isnard concentrates on the means of production 'which only have useful qualities in production' (33).

152 In section 91 of the *Reflections* Turgot argues that the mass of all capitals in a state can be calculated by adding up the value of all landed estates (*propriétés foncières*) and that of all productively employed moveable wealth (*propriétés mobilières*). The former magnitude, Turgot asserts, is '[...] equal to the revenue [of landed estates] multiplied by the current penny at which lands are sold'. In contrast, the latter magnitude is simply obtained by adding up the values of all 'capitals employed in enterprises of agriculture, industry and commerce'. As we will see shortly, Isnard is not satisfied with this latter summation that does not explain from where moveable capitals derive their value. Treating all (landed *and* moveable) durable capitals in the same way, (and using the indiscriminate term *richesses foncières*), he attempts to determine their values in a way analogous to that of land.

153 Here Isnard seems to disregard to some extent what was in section 3.5 judged to be a valuable criticism of the physiocratic doctrine. He rejects the latter's idea that land is the sole 'source' of surplus by arguing that any input contributes to reproduction. This view appears to imply that it is not possible to distinguish the 'productive properties' of individual inputs. Only the returns to the owners of individual inputs (the share of the surplus which devolves to them) can be known and this depends on relative prices.



One has to suppose values to labour, to products, [and] to fixed capital [*richesses foncières*], in order to determine which particular part of the disposable wealth will be appropriated by [*revenir à*] the workers, the owners of products, and [the owners of] capital (I, 40).

Now, if the value of fixed capital goods is understood to depend on 'their' products ('what these productive riches can yield'), when at the same time the latter magnitudes depend on relative prices, including the prices of capital goods ('one has to suppose values to fixed capital'), then it is clear that Isnard's argument is circular: the value of capital goods depends on relative prices and distribution, but distribution depends on the value of capital goods. This particular theoretical impasse in Isnard's work can perhaps be said to be a very early manifestation of the difficulties which theorists of different persuasions have persistently encountered when trying to deal with heterogeneous fixed capital.

That there are theoretical problems with Isnard's treatment of fixed capital is confirmed by the fact that in the places where he discusses the distribution of the surplus, he ignores his ideas about the valuation of durable capital goods, and where he discusses the latter he ignores that the former issue is relevant.<sup>154</sup> That is to say, in his discussion of the valuation of durable capital, Isnard simply ignores the specific problem of establishing which part of the surplus devolves to (the owners of) fixed capital, and takes the value of this part, what may be called the 'surplus product'

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<sup>154</sup> With respect to the former issue, the distribution of the surplus, it is useful to consider the 'system of wealth' reproduced above in note 10 of chapter 5 from Isnard (1781,I,42). He notes that this system produces a physical surplus (or *masse réelle*) of  $130 T + 330 T' + 300 P + 590 P'$ . (The output of each of the sectors minus productive consumption of the other sectors being respectively  $(300-170)T$ ,  $(600-270)T'$ ,  $(800-500)P$ ,  $(1000-410)P'$  and  $(1-1)N$ ). Note that Isnard assumes that the fixed capital (N) used in the production of T, T', P, and P' is completely used up. Presumably this is so because he only counts the costs of 'maintenance, repair and replacement'. This particular example leaves the bulk of fixed capital which is not used up in production out of the picture. In this Isnard can be said to follow Quesnay who in the *Analyse* indicates the existence of large sums of *avances primitives* (10 milliard), but only includes depreciation (10% or 1 milliard) in the costs of production. To demonstrate that the distribution of the surplus depends on the relative prices realised in the market, Isnard assumes the following relative prices, expressed by the common measure A.  $T=A$ ,  $T'=2A$ ,  $P=A$ ,  $P'=3A$ , and  $N=1200A$ . At these prices, he notes, the total costs of production will be 3640A and the value of the surplus will be 2860A. Of this sum the owners of T will obtain nothing; those of T', 350A; those of P, 130A; those of P', 2260A; and the owners of N, 120 A. Isnard remarks (I, 42): 'One can suppose that N is a mass of any kind of commodities; and one can note that although that mass would be completely used [up] as costs, the production of N nevertheless yields a disposable portion to the producers of those commodities'. He further notes that '[u]nder the supposition of values which we have just made, the interest is one tenth of the value of the funds, the interest rate is 10%' (ibid). This figure is apparently obtained by taking the value of the surplus appropriated by the producers of fixed capital (120A) over the value of the output of fixed capital (1200A). Consistent with his usage in other places, Isnard here calls the 'interest rate', the rate over the value of fixed capital only. Since the proprietors of other commodities can share in the surplus as well, the 'general rate of surplus value' in this example is different, namely 78.6% ( $2860 A/3640A$ ). However, in contrast with his discussion of the valuation of fixed capital: a) the fixed capital in the example is only that part used up in one period of production, and b) no explanation is given of why its value is 1200 A. This value of capital is just assumed.

of capital, as given.<sup>155</sup> In this discussion he proposes an equation expressing the relation between the 'interest on wealth', the 'surplus product' of capital, and the value of capital.

Let B be the annual value of the useful things produced by the sum R of capital. Let E be the value of capital necessary for upkeep and replacement, and  $x/I$  the ratio of the value of the fund to the interest. B-E will be the perpetual interest of R, such that we will have  $x:I :: R:B-E$ , and  $x = R/B-E$  (I,31).<sup>156</sup>

The interpretation of the equation  $x = R/B-E$  as a whole gives rise to at least two problems. In the first place one would expect the rate of return, or 'interest of wealth' (x), to be equal to the inverse of what Isnard writes, *i.e.*, the 'surplus product' or 'perpetual interest' (B-E) over the value of capital (R) (cf. Klotz 1994:47). An explanation of why Isnard uses the inverse of the rate of return of capital, may be that  $x$  actually indicates '*le dernier*' or 'the penny price' of capital. This would mean that Isnard applies the rate of capitalisation which Cantillon and Turgot use to calculate the price of land, to the valuation of (all) capital goods (cf. section 8.3.2 below).

A second, and more substantial, difficulty concerns the direction of causation implied by the equation. As we have just seen, in the case of the valuation of land Isnard assumes that  $x$  or 'the interest of wealth' is given prior to the valuation of land (which would be R in the equation). In contrast, here the determination of  $x$  would appear to be at stake, but the direction of causation is not clear: does the ratio net product/value of capital determine 'the interest of wealth' or does the latter determine the value of capital?

Interestingly, Isnard clearly acknowledges this problem. This is evident from the following passage in which he suggests a solution:

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155 A possible reason why he may not have thought this to be problematic is that Isnard does not assume the simultaneous determination of all prices in the economy. Just like he understands the profitability of enterprises to be determined only *ex post* of the sale of their produce on the market, he may have assumed that the capitalisation of the return to capital (to determine the latter's value) only takes place after this return is determined.

156 According to Jaffé, the occurrence of the term *intérêt perpétuel* in this passage (and a few sentence earlier) suggests that Léon Walras was also influenced by Isnard with respect to his theory of capital. Jaffé (1969:40) writes: 'In his analytical discussion of capital and interest, Isnard calculated the rate of return on capital as a net rate, which he arrived at after first deducting depreciation and upkeep from the gross return on capital, leaving a net return which he called "perpétuel" - exactly as Walras did after him. Moreover, Isnard used a general average rate of return to determine the market price of capital goods by capitalizing the net income at the average rate'. More recently, Klotz (1994:45-7) has criticised the strong parallels which Jaffé sees between the theories of capital and interest of the two writers. In the first place, Klotz points out that although both Isnard and Walras indeed use the same term *perpétuel*, this does not mean that their notion of net revenue is identical. In Walras the *taux du revenu perpétuel* is 'the desire for an additional net revenue in the future' (ibid. 46) for which a separate market is assumed. Isnard uses the term *perpétuel* to indicate that the net income can be enjoyed by the capitalist leaving his capital intact. Second, Klotz argues that while both men 'calculate the value of capital goods by actualising the net revenue' (ibid. 47), only Walras supplies a formula for this. (Walras' formula is  $P = p/i + \mu + v$  where P is the price of a capital good, p the price of the service of the capital good, i the 'rate of net revenue',  $\mu$  the rate of amortization and v the rate of insurance).

[...] amongst the values of capitals, there are ones which determine the rate of interest, and there are ones which are determined by that rate. Suppose that the mass of productive capital were composed of two parts R and Y, where the value of the first determines the rate of interest, and where the value of the others is determined by that rate; let B and B' be the products of those capitals, or the values of their products; let E and E' be the value necessary for their upkeep, repair and replacement; let x be the rate of interest, [then] one will have  $x:I :: R+Y : B+B'-E-E'$ , and  $Y:B'-E' :: x:I$ . One can conclude from those two proportions that  $x:I :: R:B-E$ . The ratio of interest of capitals is therefore determined by determined quantities (I,32-3; emphases added).

The first and last sentence of this passage show clearly that Isnard is concerned to establish a direction of causation according to which the 'rate of return of fixed capital' is determined by a magnitude which is not in turn determined by the former. In other words, he seems to be well aware of the possibility of circular reasoning. While the very insight that there is a problem to be resolved is remarkable, there are some obvious problems with the solution which Isnard seems to propose. In fact, Isnard seems to propose two different solutions, each having their own problems.

In the first place, what Isnard suggests is that one should assume that the value of some capitals is exempt from being dependent on the rate of return on fixed capitals. However, he gives no justification for this exemption, and it seems to be inconsistent with his own principles regarding the valuation of capital goods. Moreover, it is hard to see which capitals would have to be the ones whose values determine the rate of interest (profit). The two most likely candidates, *i.e.*, land or money-capital are explicitly rejected by Isnard, since as we saw he argues that the value of land and the rate of return on money capital are determined *posterior* to the 'interest on wealth'. It can therefore be concluded that the solution depending on exempting a particular type of capital from the general principle that the value of fixed capitals depends on their rate of return is not very successful.

However, more interestingly, in a later section Isnard seems to suggest an alternative solution according to which the rate of return on fixed capital is determined by the physical ratio between surplus and fixed capital *in general*.<sup>157</sup> With respect to this proposed solution it should first be

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157 It could be argued that this is the only solution offered by Isnard. For this an alternative reading is necessary of the passage quoted above containing the suggestion that '[...] among the values of capitals, there are ones which determine the rate of interest, and there are ones which are determined by that rate.' The sentence immediately following this one, reads in French: '*Supposons que la masse des richesses productives soit composée de deux parties R & Y, dont la valeur des premières détermine le taux de l'intérêt, & dont la valeur des autres soit déterminée par ce taux; [...]*' (I,32). The question is now whether the words *premières* and *autres* refer to part R and Y respectively, as is taken to be the case in the first interpretation. The meaning of the sentence would then be that part R is the part of the total mass of capitals which determines the rate of return, and Y the part which value is determined by this rate. Alternatively, the *premières* and *autres* may refer to 'the mass of productive capital' and 'the two parts R and Y' respectively. This reading is more consistent with the second interpretation, since the meaning of the sentence would now be that the mass of productive capital is the (physical) quantity which enters into the determination of the rate of return, while the values of the composite parts (R and Y) are the ones which are determined subsequently. This latter reading is to some extent supported by the algebra following the sentence: Isnard first determines a 'general rate of profit on fixed capital' and then determines the value of one of the composite parts.

noted out that in this later section Isnard uses two different terms to denote what he called earlier 'interest of wealth' (I, 30). He now uses the terms 'the general interest of wealth' [*l'intérêt général des richesses*], (I,282 and 283), and 'the general interest of the productive funds' [*l'intérêt général des fonds productifs*] (I, 285).

The qualification that what he has in mind when discussing the rate of profit is a *general* rate of return over productively employed fixed capital is rather significant: Isnard now argues that the general interest of wealth can be '[...] considered independently of [...] the interest of the funds which are part of it' (I,283). In other words, what Isnard suggests is that a general rate of return, or surplus, could be obtained over the mass of all the different means of production, which is distinct from the rate of return of every single type of durable input. The 'general interest of wealth' is defined as 'the ratio of periodical production to the *mass* of productive wealth and the costs of upkeep, repair and renewal' (*ibid.*282; emphasis added).<sup>158</sup> Of this ratio Isnard remarks the following:

With respect to the general interest of wealth, considered independently of the interest on money and the interest of funds which are part of it, it is certain that it is the highest [rate] which is the most advantageous; because, although it is in the interest of production that one destines the largest possible quantity of expenditures and wealth to it, yet the more the genius and the industry of men diminishes the mass of productive wealth relative to the produce, the more considerable the portion of enjoyment and free consumption will be, and the richer the nation will be (I,283).

It seems that what Isnard has in mind is a strictly physical ratio, describing the 'productivity of capital in general'. Some further support for this interpretation can be found in the fact that Isnard has a clear perception of the general surplus generated in society as a bundle of physical quantities of surplus products of different kinds (see section 3.5). The heterogeneity of capitals would require that the 'general interest of the productive funds' is expressed using three bundles of physical quantities. From one bundle of total produce is subtracted a bundle of necessary costs (upkeep, repair and renewal). The remaining quantities of goods would then be 'the portion of enjoyment and free consumption'. These quantities divided by a bundle of fixed capital of different kinds would give a physical surplus ratio. This conception is an answer of sorts to the question what Isnard means when he says that 'the ratio of interest of capitals is [...] determined by determined quantities'.

It may even be said that this attempted solution is somewhat akin to the one which (according to some commentators) was made by Ricardo when presenting his 'corn model'. That is to say, both writers share the concern to determine a rate of profit as a physical entity, in the absence of, or prior to, the assumption of values. Nevertheless, the differences between Isnard's and

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<sup>158</sup> It has to be noted that some liberty has been taken in the rendering in English of Isnard's definition which reads in French: '*L'intérêt général des richesses, ou le rapport de la production périodique à la masse des richesses productives de longue durée, & des richesses d'entretien, de réparations & de renouvellement.*'

Ricardo's suggested solutions are substantial. First, while the former explicitly assumes heterogeneous capitals, the latter in effect assumes a one commodity world in which both the capital employed and the surplus are quantities of corn. It allows (Sraffa's) Ricardo to think of the rate of surplus value in terms of a simple aliquot fraction. For Isnard to do the same, the bundle of surplus products over the bundle of capitals would have to be reduced to a single physical ratio. This could be done only if, at the same time the surpluses consist of the same kinds of commodities as the capitals, *and* the rates of surplus are exactly the same for each kind. Needless to say that Isnard does not make such an attempt. His solution of seeing the rate of surplus as a physical ratio between output and capital input is very imperfect. However, one can hardly blame him. In order to give a consistent solution he would have had to solve the analytical problems caused by the heterogeneous nature of capital goods.

## 7.5 Conclusion

This chapter can be concluded by briefly summing up the basic similarities and differences between the theories of capital of Quesnay, Turgot and Isnard. In the first place, Quesnay's *avances annuelles* and *primitives*, Turgot's *richesses mobilières*, and Isnard's *richesses foncières* are each conceived as masses of commodities which have been gradually accumulated over previous periods of production. Recognising the importance of this stock of capital to production, these writers emphasise the need to maintain and replace as well expand this fund. Turgot introduces the notion of profit as a return to capital advanced and theorises the connection between the returns on capital in different employments. A number of elements of Turgot's theory of capital, such as the idea of accumulation out of the surplus and the tendency toward a uniform rate of profit, can be found back in Isnard although the latter does not develop them in a systematic manner. The notion of profit as a net rate of return on capital leads Isnard to consider the problem of the valuation of capital.

## Chapter 8. Rent

### 8.1. Introduction

Rent, the income share paid to landowners for the use of land, is seen in physiocratic economics as a residual left over after deduction of the costs of production of the farmers from the sales value of the agricultural produce. Neither was this perception of rent new, it already appears for example in Petty and Cantillon (see Aspromourgos 1996: 24-5,85,162), nor is it fundamentally questioned by more independent minded writers influenced by the *économistes* such as Turgot and Isnard. Given this perception, the theory of rent appears to require an explanation of the difference between the sales value of the agricultural produce and the farmers' costs.

It is generally accepted that the physiocrats do not provide a satisfactory answer to this question.<sup>1</sup> By and large, the same can be said of Turgot, Morellet and Isnard. As we have seen in the previous chapter, it is true that these latter writers do not agree with Quesnay that *the whole* disposable, or net, product of society is appropriated by the landowning class. By including a rate of 'pure' profit in the normal returns of the farmer, both Turgot and Isnard argue that the farmer and the landowner *divide* the surplus, *i.e.*, the difference between the sales value of the harvest and the (prime) costs of its production.<sup>2</sup> But while these writers deny that

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1 Meek (1962:388): 'By and large, it is fair to say that [the physiocrats] simply took the existence of rent as such for granted, and did not feel it necessary to enquire at all closely into the *economic* forces which permitted it to emerge and persist in a competitive economy'. Meek (1962:387/88) considers several explanations which the physiocrats may have advanced for the persistence of rent. He correctly rejects the suggestion that, like Smith, Quesnay or Mirabeau attempted to argue that rent arose from the fact that the landowners had a monopoly over the supply of land. This suggestion was made by Weulersse (1910, I, 227). Other commentators who note the unsatisfactory treatment of rent by the physiocrats are Vaggi 1987 (cf. note 14 below), and Brewer 1992 (cf note 47 below). Aspromourgos (1996:161-2) argues that Quesnay is not alone in this respect. Petty, Cantillon, Steuart and Turgot also have problems explaining the persistence of rent. He argues that for each of these writers '[...] the magnitude of rents is essentially of *conventional* determination', and that '[...] land and rents have not been incorporated into capitalist social relations by these writers'.

2 Turgot's most detailed statement with respect to the items the farmer deducts from the total product is in the following passage: 'From the produce of the soil, the cultivator must first deduct his subsistence, and that of his family, [...]; next, the interest on his advances, and this interest must be sufficiently high for him to discover an appreciable advantage in placing his capitals in agricultural enterprises, rather than in any other form. [...] The cultivator must also appropriate the wherewithal to meet all the expenses which the continuation of his cultivation requires, for without these expenses, the reproduction of the following year would cease.[...] The surplus produce, that which remains after the portion of the cultivator has been deducted, is the *net product* or the revenue of the soil. It is this net product which the cultivator is able to hand over, and which indeed he does hand over to the proprietor in order to obtain permission

the cultivators hand over *the whole* of the disposable product of the land to the landowners, they hardly seem to ask the question why the former would agree, or be able, to share *any* of it with the latter. If it is assumed that agricultural production adapts to the effective demand for agricultural goods, and if as a result the market price of those goods tends towards their costs of production, why would this difference, and thus rent, persist? By not offering a clear answer to this question, they can be said not to provide a clearer economic (or more precisely, a competitive) explanation of the phenomenon of rent than the physiocrats.

In this chapter it is argued that in a small number of texts written in the late 1760s the question why rent is paid, is at least recognised as one needing further discussion. It will not be claimed that a consistent competitive theory of rent can be found in the physiocratic literature. Still, there are some interesting attempts in that direction. Perhaps the most significant contribution in this context is an anonymous article in the *Ephémérides* of 1768, which combines three different explanations of rent, which appear individually in a number of texts of the same period. The discussion of rent presented in that article will be examined in section 8.4. Prior to that, the three explanations of rent (rent as a compensation for the *avances foncières*, rent as a return on capital, and the notion of differential rent) will be discussed separately in section 8.3. However, first the content and limitations of the more common physiocratic views on rent will be briefly examined.

## 8.2. The common physiocratic treatment of rent

Quesnay sees rent as a periodically adjustable contractual payment of the farmer to the

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from him to cultivate' (Turgot 1770a:169). As was argued in section 7.3.6, despite Turgot's insistence that the 'interest on advances' is a '*necessary cost*', it is in effect a surplus element in the sense that it is paid over and above the capital needed to replace the capital used up. The difference between rent as a residual ('price determined') element and profit as a necessary ('price determining') cost is well expressed in the following passage: 'The revenue [*i.e.* rent], as we have already explained, consists in what the land produces, beyond the wages of the cultivators, their profits, and the interest of their advances. It is not the same with the interest of a loan; it is the very condition of the loan, the price of the advance, without which neither the revenue nor the profits which serve to pay it exist (1766:93). Isnard simply asserts that '[...] the disposable product of the land is divided by the proprietors and the cultivators according to their agreements' (Isnard 1781, II, 10; '[...] *le produit disponible des biens fonds est partagé par le propriétaires & les cultivateurs à raison de leurs conventions*'). Cf. *ibid.*, I,51 : 'The cultivators draw subsistence goods from the bosom of the earth and hand over to the proprietors the part upon which they have agreed while reserving for themselves from the total product the payment for their efforts and of their advances'.

landowner for the use of the latter's land.<sup>3</sup> During the course of the lease the amount of rent is fixed, making the success of the harvest and variations in agricultural prices a risk of the agricultural entrepreneur. The fact that rents do not immediately adapt to increases and falls in the farmer's revenue, makes it possible that the latter may temporarily share in the surplus.<sup>4</sup> It also explains the view, which is sometimes expressed in the physiocratic literature, that rent is part of the fundamental price of agricultural goods, *i.e.*, the minimum price which has to be recovered in order that production is continued, and as such 'price determining'.<sup>5</sup>

However, upon the renewal of land-leases (*baux*), or in the longer term, the amount of rent paid is adjustable. The land-lease is presented as a freely negotiated contract in which lessees and lessors agree on the size of the net product of a landed estate.<sup>6</sup> The two main

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3 The duration of the lease is normally assumed to be nine years. See e.g. the extract from 'Rural Philosophy' in Meek (1962:141,145-6). Cf. Vaggi (1987:83-4). Of course, the perception of rent as a contract payment presupposes that the landowner has the *right* to stipulate a price for the use of his land. The question of the legitimacy of the charging of rent and the explanation of the existence of rent are normally not clearly distinguished in the physiocratic literature. Cf. note 18 below.

4 As was discussed in section 7.2.2., Vaggi's interpretation of the physiocratic theory of profit is largely based on the lag in the adjustment of rents. This argument is also used by Morellet ms. 2512:235-252. Conversely, the notion that lease contracts are fixed in the short term is also used by the physiocrats to explain why new indirect taxes normally first fall upon the farmers, affecting production. See e.g. Mercier (1767:495-6); cf. Isnard (1781, II, 12-13).

5 See e.g. Le Trosne (1777b:893): 'If those expenses [*i.e.* the expenses which constitute the fundamental price of agricultural goods] were not repaid in the price, one would neither have the will, nor the power to continue the same works and the same advances to perpetuate the reproduction; and it has to be observed that exchange or sale must give, not only the repayment of the costs of cultivation, but in addition a surplus [... ]which supplies the rent'. The point that in physiocratic theory rent is part of the fundamental price is stressed (perhaps a little too much) by Vaggi (1987:87).

6 The 'intensity of competition' between lessees and between lessors is sometimes referred to as a factor influencing the negotiations between farmers and landowners. This idea is specifically used as an argument to support the opinion that upon the renewal of the lease landowners would normally appropriate the whole of the agricultural surplus. A clear account of the bargaining process over the level of rent is given by Baudeau (1767:160), who states that: '[...] it is the competition [*concurrence*] of lessors [*bailleurs*] and lessees [*preneurs à ferme*] which fixes the price of leases [*baux*]. [Both] the farmer and the proprietor will know the [size of] the net product. The one will try to obtain the whole [net product], and the other will, if he can, try to obtain a part besides his returns'. While this passage suggests an open-ended bargaining process between farmer and landowner, at the same time it was assumed that under normal competitive circumstances the farmer would *not* succeed in securing a part of the net product. It should be noted that this two-fold opinion is rarely explained in detail, and that in some measure the latter part will have been no more than the inference from the dogma that since the surplus was due to the fertility of the soil, it was proper that it would accrue to the owner of the soil. However, this conviction seems also to be supported by the implicit economic argument that the full liberalisation of the trade in agricultural products would cause the establishment of 'high' prices coupled with a 'large' effective demand for agricultural goods. These favourable market conditions would make farmers want to expand production, assuring in turn that the competition for land between farmers would be 'very keen', thereby allowing the landowners to appropriate the whole net product at the renewal of leases. This is also suggested by Turgot: '[...] when competition among [the farmers] is very keen, they give [the landowner] the whole of this surplus, since the Proprietor will let his land only to the man who offers the highest rent'



factors understood to influence the level of rent are on the one hand the physical productivity of a landed estate, and on the other hand the level of agricultural prices and other 'market conditions'. Together these factors determine the monetary value of the rent.<sup>7</sup>

With respect to the first factor Quesnay's well-known technical discussion of the differences between large-scale cultivation (*la grande culture*) and small-scale cultivation (*la petite culture*) is pertinent. An important aspect of Quesnay's analysis is that large-scale cultivation, utilising more capital and employing superior agricultural techniques (particularly the use of horse-drawn ploughs), yields a higher net product, than small-scale cultivation. He estimates this net product at 100% of the annual advances.<sup>8</sup> The improvement of the productivity of French agriculture can be achieved by the spread of the system of large-scale farming, eventually leading to a '[...] kingdom whose territory [is] fully cultivated by the best possible methods' in which '[...] the greatest possible product [is] annually regenerated by expenditure on the cultivation of the land' (Quesnay 1962:151, 233).

The implication of Quesnay's discussion is that land which is cultivated under the system of *la grande culture* yields a higher rent. Two points should be made about the consequences of this position for the explanation of rent. In the first place, it is quite rare to find in the physiocratic literature the idea that the difference in the amount of rent which different lands yield is due to differences in the 'natural fertility' of these lands. An apparent exception is Mirabeau's discussion in the *Philosophie Rurale* (1763, II, 212-15) of the possibility that a 'diminishing revenue, [which is] disproportionate to expenses' is due to the

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(1766:72).

7 Le Trosne (1777b:927-8): '[land leases] are free agreements between those two classes [*i.e.*, landowners and farmers] who determine the disposable portion, which is more or less considerable depending on the given state of things, [that is] depending on the natural or acquired fertility of the land, depending on the more or less easy outlets [*débouchés*], depending on whether the social conditions necessary to the success of agriculture are observed or not, depending on the wisdom or errors of the administration'. Similarly Turgot (1766:72): 'The competition between rich Entrepreneurs in agriculture fixes the current price of leases, in proportion to the fertility of the soil, and the price at which its produce is sold, always according to the calculations which the Farmers make both of their expenditures, and of the profits they ought to draw from their advances. They cannot give the proprietors more than the surplus'.

8 As Eltis (1984:7) shows, in 'Farmers', Quesnay uses detailed calculations to arrive at a ratio of net product over annual advances of 93 % for farmers practising *la grande culture*, and 36 % for peasants practising *la petite culture*. The former figure is normally rounded up to 100% in the various versions of the *Tableau économique*, and other writings. Cf. Vaggi (1987:99). Isnard (1781,I,69) presents calculations in which he assumes that the net product is 100% over *avances annuelles* and *primitives*.

'bad quality of the land, and the lack of improvement'.<sup>9</sup> Mirabeau first acknowledges that some lands are of a poorer quality. He immediately adds that the natural fertility of land can be altered through human agency.

The labour of man overrides even the contempt [*les dedains*] of nature, *labor omnia vincit improbus*. That is so true that, if there are lands which are bad by nature, there are few which do not become good by art (*ibid.* 212).

He acknowledges that this improvement of the productivity of land of a poor quality requires extra spending. In order that a field is cultivated

[...] it is necessary that that field yields [a return], and that can only happen after improvement. This improvement supposes costs, and since nobody wants to incur costs at a loss, it has to be that the product, for which one has made the sacrifice of costs, is equal to the costs and in addition yields a profit, which alone can motivate the incurring of [the costs] (*ibid.* 213).

However, a conclusion which Mirabeau does not draw is that the improvement of lesser qualities of land requires larger expenses than better qualities of land, and thus while the productivity of the former lands is increased absolutely, the relation of their net product to the costs of cultivation remains inferior to that of the latter. Instead he suggests that the expenditure of labour and capital nullifies the differences in 'natural' fertility of different types of land. 'Thus expenditures decide the quality of lands, and obtain improvement. As expenditures diminish, lands become bad, [and as] improvements are no longer made, the products diminish, and with them the revenues fall' (*ibid.* 213–4).

Thus the idea that differential returns in agriculture are due to differences in the natural fertility of the various types of land in use, is strongly played down by Mirabeau. It is primarily the lack of capital, and not the inferiority of the soil, which makes some farms less productive than others. It may be suggested that this position in a sense hinders the development of a theory of extensive differential rent. However, at the same time it does not mean that such a theory is incompatible with physiocratic doctrine (see section 8.4).

Second, the same preoccupation with the insight that it is primarily the lack of agricultural capital which limits the increase in agricultural production, also seems to prevent

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<sup>9</sup> This is the first of no less than 12 causes, listed on page 211, which according to Mirabeau explain a net product which is 'disproportionate' to agricultural advances. The very use of the word 'disproportionate' indicates that the physiocrats tend to assume that there is a definite, optimal net rate of return achievable in agriculture on all land.

the physiocrats from elaborating the notion of diminishing *intensive* returns in agriculture. Within the system of *la grande culture* Quesnay appears to assume constant returns.<sup>10</sup> His idea that at some point a country can be 'fully cultivated by the best possible methods' yielding the 'greatest possible product' suggests a definite limit to the expansion of agricultural production. However, it is not implied that up to that point increasing returns exist and/or beyond that point diminishing returns. It is the assumption of constant returns in agriculture which is famously criticised by Turgot in his 'Observations on a Paper by Saint-Péravy'. However, as will be argued in section 8.3.3.2., Turgot does not apply his discussion of the notion of diminishing (intensive) returns to the explanation of rent. The reason for this is that according to him the '[...] point at which the augmentation of the advances would not increase the output in proportion to the increase of expenses [...] is far from being attained' (Turgot 1767a:125–6).

In fact, he shares Quesnay's view that French agriculture is far removed from achieving its full potential output level. The same is true for Morellet and Isnard.<sup>11</sup> Morellet is particularly optimistic in this respect.

Growth is possible because the limits of the fertility of the soil have not yet been reached on any land. The actual state of the best cultivated lands is as much removed from the best possible state of cultivation as the worst cultivated lands from the [presently] best cultivated ones and it is known that the difference between those latter two [types of] land is for example more than 1 to 100, that there are lands which sell for 100 while there are other which sell for 1 [...] (Morellet ms.2579:92).

Indeed, Morellet doubts whether there are any limits to the improvement of the productivity of agriculture, since '[...] the genius of man can animate and augment the productive capacity

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10 By the way, the idea that lands which are cultivated under the system of *la grande culture* yield a larger net product, does not precisely mean that the physiocrats assume the existence of increasing (intensive) returns in agriculture. The transition from small-scale cultivation to large-scale cultivation, instead of being a 'continuous' process in which increasingly more capital is applied to the land, is a process in which one agricultural system, or technique, is replaced by another.

11 The influence of Quesnay views on agricultural productivity on Turgot, Morellet and Isnard is clear from the fact that they all adopt distinction between *la grande culture* and *la petite culture*. In Turgot's case see the sections 25 to 27 and 64 of the *Reflections* and his *Sur la Grande et la Petite Culture* which was first published in 1767 in the *Ephémérides*. Morellet discussion of large-scale and small-scale farming can be found in particular in ms. 2512. Isnard takes over the same distinction in his discussion of agricultural production (1781, I, 60–73), citing Quesnay's *Encyclopédie* articles (*ibid.* 65). Adopting the same North-South distinction, Isnard only disagrees with Quesnay's estimations of the amount of land cultivated under the two systems. While Quesnay estimates that *la grande culture* is practised on 6 million *arpens*, and *la petite culture* on 30 million *arpens*, Isnard puts it on 8 million and 42 million respectively. (Basing himself on a map of France by Maraldi and Cassini (1744), Isnard estimates the total surface of France at 100 million *arpens*, half of which he assumes to be cultivated (*ibid.* 65–7). He rejects estimates of the size of France by Necker (1775), (130 m.) and Vauban (*Dixme Royale*) (123 m.)).

of the soil and of labour without measure, or at least we do not know yet any limit to that capacity (*ibid.* 95).<sup>12</sup> Generally, these writers share the viewpoint of Quesnay and his closest followers that the immediate restrictions on the expansion of agricultural production are not posed by physical or technical constraints, but by the lack of agricultural capital.

A second aspect the physiocratic discussions of rent is that a relation is postulated between the level of agricultural prices and the level of rent. This is most concisely expressed in Quesnay's maxim '*Telle est la valeur vénale, tel est le revenu*' (1767a:235). According to Quesnay, if agricultural products can be sold at *bons prix*, farmers will be able to pay higher rents. This will lead to larger expenditures by the landowners, stimulating consumption which will give rise to an abundant reproduction. Conversely, a fall in the prices of the agricultural produce would eventually be at the expense of rents (and spending), since the difference between the value of the agricultural produce and the necessary costs of the farmers would become smaller. Turgot praises this insight when he notes:

M. Quesnay has [...] demonstrated that, if the exchange value is diminished, the revenue would diminish gradually to the point where finally the soil would produce nothing beyond the reproduction of advances and the profit of the cultivator; that from then on there would be no more letting out of land; [...] (Turgot 1763:103).<sup>13</sup>

What Turgot fails to point out is that Quesnay does not demonstrate why under competitive circumstances the exchange value of agricultural products would not *normally* fall to 'the reproduction of advances and the profit of the cultivator', eliminating rents. Quesnay simply seems to assume that *bons prix* will generally guarantee a difference between the value of

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12 These views are expressed in a notebook entitled '*Réfutation de l'opinion que la prospérité de sociétés politiques a des bornes nécessaires*' (ms. 2579:81-95). Interestingly, Morellet argues specifically against Smith's theory of the progressive, stationary and declining stages of society which is said to be based on a common comparison of the life of a state to that of a human being, going through 'youth, adulthood and decrepitude of old age' (*ibid.* 82-3). Morellet concentrates on the great possibilities for the improvement of agricultural productivity to refute Smith's ideas. His main point is that since the soils '[...] do not have necessary and natural limits, or [since] those limits are still prodigiously remote, it is thus not true that societies which have arrived at a certain degree of wealth through the progress of cultivation, can only expire' (*ibid.* 89). A reference to '*nos révolutionnaires modernes*' who according to Morellet have picked up on Smith's ideas (*ibid.* 94), suggests a dating after 1789.

13 It is difficult to see why Brewer (1987:427) reads in this passage a recognition by Turgot of the existence of diminishing returns in agriculture. See section 8.3.3.2 below. What Turgot seems to be appreciating here is that Quesnay recognises rent as being 'price determined' (a notion which is not necessarily related to the *physical* productivity of agriculture). In this context a passage in Morellet's manuscripts (ms.2525, P:11) is interesting: 'The rent paid to the proprietor forms a part of the price of merchandises or foodstuffs [but] in another manner than the wages of labour and the profits of capital, the dearness or cheapness of wages and profits are *causes* of the dearness or cheapness of merchandises. The high or low level of rent is the *effect* of that dearness or cheapness' (emphases added). Unfortunately, it is not possible to date this passage.

agricultural revenues and costs. In order to give a favourable reading to this aspect of the physiocratic theory of rent, Vaggi puts forward the interpretation that Quesnay explains the persistence of rent with the argument that the demand for agricultural goods is always higher than the supply, raising their prices permanently above the cost of cultivation. Vaggi acknowledges that this does not constitute a very satisfactory explanation of rent (like his interpretation of the physiocratic theory of profits, it seems to largely depend upon the assumption of an ever expanding economy). Moreover, judging by his limited textual evidence, it can be doubted whether Quesnay did in fact employ this argument in any consistent manner.<sup>14</sup>

In short, the physiocrats generally recognise that the rent which is paid for the use of a piece of land is related both to its physical productivity and the exchangeable value of agricultural products. However, they do not apply the idea of differential returns (either at the extensive or the intensive margin) to the explanation of rent. Neither do they seem to have a notion of 'absolute rent', for example by arguing like Smith that '[...] the price paid for the use of land, is naturally a monopoly price' (Smith 1776,I,xi:146).<sup>15</sup>

### 8.3 Later arguments

It is helpful to make a distinction between three arguments appearing in later physiocratic literature intended to explain rent. First, in some writings the relation is stressed between the initial spending of landowners needed to get land in an arable condition and the payment of rent. Second, the relation between the return on land and that from other employments of capital is emphasised, linking the rate of rent to the interest rate and the profit rate. Third, the relation between rent and the differences in the physical product on different qualities of land

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14 See especially Vaggi (1987:115-19). The principal support for this interpretation is the following remark of Quesnay (1766c:227): 'The prices of [agricultural] products are regulated, irrespective of the costs of cultivation, by the quantity and by the competition of purchasers, whose needs are always greater than the total amount of reproduction'. Meek (1962:388), whom Vaggi seems to be challenging, rejects the idea that this argument constitutes a significant attempt to explain the persistence of a value surplus in agriculture. It is reminiscent of Smith's argument that '[h]uman food seems to be the only produce of land which always and necessarily affords some rent to the landlord' (Smith 1776 I, xi: 149).

15 Cf. note 1 above. According to Schumpeter (1954:264), the physiocratic discussion of rent, in contrast to that of Smith, at least has '[...] the merit of saying or implying nothing that is definitely wrong [...]'. It is perhaps more accurate to say that Smith's appeal to the monopoly ownership of land is unsatisfactory as a *competitive* theory of rent. It is quite a different question whether Smith was *actually* 'wrong'.

and at different intensities of exploitation is addressed.

### 8.3.1 Rent as compensation for *avances foncières*

The first argument is elaborated in particular by Baudeau in his *Explication du Tableau Économique*.<sup>16</sup> Land, Baudeau argues, only becomes capable of yielding a product after initial expenditures of landowners to the land, the *avances foncières*. It is wrong to think that any arable land is freely available since '[...] nature left to itself does not provide any garden [*jardin*], properly speaking, neither fields, nor vineyards, nor arable land' (*ibid.* 827). Before a field is ready to be taken into cultivation all kinds of works have to be carried out such as 'clearings, levellings, ditches, plantations, buildings', which require *avances foncières* (*ibid.* 829).<sup>17</sup> It is only through these expenditures that land acquires a selling price.

Purchasing a landed estate which is already exploited [*ci-devant mis en valeur*], is to reimburse to the first land-clearer [*premier défricheur*], or to his representatives, the capital which he had expended for that end [*i.e.*, the clearing], and by that title take over all his rights (*ibid.* 834)

Similarly, rent can be seen as a return to the initial expenditures of the person who first cleared the land. This idea is also expressed by Dupont who argues that the rent or

[...] the net product is the share of the landed property [*propriété foncière*]. It is the price of the expenditures and works of clearing, draining, plantation, buildings, etc., done in order to get the soil in a state to be cultivated (Dupont 1768:345; cf. Le Trosne 1777b:893).

Thus rent is a payment for the fertility of the soil, but the latter is due to the initial expenditures of landowners.

To some extent this and similar arguments are undoubtedly intended as a *justification* for property rights in land, and the charging of rent. The distinction between the question 'why is a landowner entitled to charge a price for the use of his land?' and 'why does the use of land have a price and what determines its level?' is not clearly made by Baudeau. Still, it is useful to distinguish the two issues. The first question is concerned with the justification of rent, and

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<sup>16</sup> This text was originally published in several parts in the *Ephémérides*, (volumes xi and xii of 1767, iii of 1768, and ii of 1770).

<sup>17</sup> A similar summation is given for example by Morellet (1769:206).

the second with the economic explanation of the same.<sup>18</sup>

With respect to the first question it is important to note that Turgot clearly disagrees with Baudeau and Dupont that the property in land is established through an initial expenditure to the land. In section 17 of the *Reflections*, Turgot asserts that landownership exists '[...] only by virtue of human conventions, and those of civil laws which guaranteed, to the first Cultivators and to their heirs, the ownership of the land they occupied, even when they ceased to cultivate it'. Much to Turgot's annoyance, Dupont adds a sentence at this point in the edition which appeared in the *Ephémérides* in 1770. It states that landownership is acquired '[...] for the price of the landed advances [*avances foncières*] with which they have prepared these lands for cultivation and which are, as it were, incorporated in the soil itself' (1977 edition:49–50 n.7). Turgot objects to this 'correction' that '[...] although the advances which you call *foncières* contribute for their part to the production of harvests, [...] it is nevertheless wrong that the *avances foncières* are the principle of property'.<sup>19</sup> Turgot thus rejects the idea that the property in land arises from anything else than the 'first occupation' of land.<sup>20</sup>

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18 This distinction may be formulated in more general terms in order to differentiate theories of private property and theories of competitive value. In the former theories, the question is addressed on what grounds a person can claim the exclusive possession of valuables. In the latter theories, the question is addressed which factors determine the value of things in a free exchange economy. These are really two separate issues. For example, John Locke presented a labour theory of property, according to which a person acquires exclusive property rights in an object by applying labour to it. He did not put forward a labour theory of value, according to which the relative prices of goods depend on the amount of labour expended on them. As was argued in section 7.3.5 the same distinction is relevant for the theory of interest. The question why it is right to require a interest payment for the use of money-capital, is not the same as the question why the use of money-capital commands a price.

19 Turgot to Dupont 20/2/1770 (in Schelle III,378). A few weeks earlier (2/2/1770), Turgot writes angrily about the same addition: '[...] you know how much I have disputed on this issue with the abbé Baudeau in your presence; I may be wrong, but everyone wants to be himself, and not someone else' (Schelle 1913-23,III, 374).

20 See also his '*Mémoire sur le mines et carrières*' (1764; Schelle II, esp. 367) where Turgot affirms that the property in land is established 'by way of occupation'. It might be argued that this position of Turgot could be related to an explanation of rent, especially since he also argues in the *Reflections* that with the progress of society all land got an owner: 'With the passage of time, the best lands all came to be occupied; there remained for those who came last nothing but the barren land, rejected by the first. But finally all land found an owner [...]' (Turgot 1766:47). This idea *could* have been developed into either a theory of extensive differential rent (because of the recognition of the different qualities of land) or of absolute rent (because all land is assumed to be owned). In fact, Turgot does neither. He seems solely concerned with the explanation of the origin (or justification) of the exclusive property in land. His disagreement with the physiocrats concerns the theory of *property* (in land), not the theory of the (rental) *value* of that property (cf. note 18 above). In the context of the larger natural law tradition it may be said that on this point Turgot is closer to Grotius or Pufendorf, while the physiocrats seem to want to apply Locke's theory of property. Le Trosne (1777a, Discourse II), for example, gives a detailed account of how the initial expenditure of *propriété mobilière*, (which in turn derives from the exertion of one's *propriété personnelle*) gives rise to property in arable land, *propriété foncière*. See also Larrère (1992:201). Hervier

However, at the same time the stress on the *avances foncières* also constitutes something of an *economic explanation* for the existence of rent. If one assumes that considerable costs have to be incurred *before* any production can commence on a plot of land, then these costs can be understood as a threshold preventing farmers from moving to uncleared land. Even if (uncleared) land is understood to be in abundant supply and of homogeneous quality, farmers would be prepared to pay rent up to the (opportunity) costs of themselves bringing an uncleared plot in the condition to be cultivated. In a sense it may even be said that arable land from this perspective is seen as a producible commodity.<sup>21</sup> While this line of argument is possibly not without merit, it has to be kept in mind that it is not developed in any detail in the physiocratic literature. Still, as will be seen in section 8.4, in at least one place the initial costs of clearing are quite explicitly used as an economic explanation for rent.

### 8.3.2 Rent as a return on capital

Another treatment of rent is implied by Turgot's theory of capital (see section 6.3.3. above). This theory has a bearing on his theory of rent. In the *Reflections* he tends to treat rent as a return on a capital used to purchase land. Turgot argues that in a sense landowners can be considered as a subclass of capitalists.

Every landed estate is the equivalent of a capital; consequently every proprietor is a capitalist, but not

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(1997:79 n.33), following Morilhat (1988:104), notes that at an earlier stage, 1753-4 in *Sur la géographie politique* (Schelle I,439), Turgot argues that property rights in land are not perfect. Since 'the right of property is based on the general utility', the law can intervene if the owner of land does not employ his property productively. However, in his later work Turgot rejects this reservation.

21 In this context it must be noted that the physiocrats do not necessarily see land, like Ricardo, as possessing 'indestructible powers'. Quesnay notes in 'Analysis' that some of the expenditures of the landowners are not 'sterile', but are 'undertaken for the maintenance and improvement of their property and for the expansion of its cultivation. [...] the proprietors are by natural law entrusted with the care of the administration of their patrimony, and with the expenses involved in keeping it in repair'. A very similar point is made by Morellet ms.2512:149. Cf. section 3.4 and ch.6 n.58 above. The idea that rent is not only a return on a capital expended to bring a landed estate in an arable state (which is hardly present in Quesnay's work), but also that some of the rent is needed for the upkeep of this capital, suggests a treatment of the *avances foncières* in an analogous manner to the *avances primitives* as reproducible commodities. This idea is not all that fanciful. For example, in the case of polders or other lands requiring substantial investments prior to being taken into cultivation it may be useful to assume the price of new arable land, and hence rent, is related to its 'cost of production', rather than from its 'scarcity'. Possibly in response to the physiocrats, Adam Smith briefly considers the idea that the rent of land is '[...] no more than a reasonable profit or interest for the stock laid out by the landlord upon its improvement' (1776, I, xi: 145), only to reject this theory.



every capitalist is a proprietor of a landed estate; and the owner of a moveable capital may choose whether to use it in acquiring a landed estate, or to invest it in the enterprises of the agricultural class, or the industrial class (Turgot 1766:90-1).

Turgot's perception of the income of landowners as a return on capital, comparable to (though normally a little lower than) the returns on capitals in other employment, is more or less peculiar to him. As Meek (1973b:iv-vii and 1974:254) stresses, in this respect Turgot differs from Adam Smith, the later British classical economists, and Marx who do assume that the 'mobility of capital' ensures that the rates of profit in different sectors are related, but not that there is a further connection with the rates of rent and interest. What Turgot seems to be implying is that in agricultural production 'two capitals' are involved, *viz.* a *propriété mobilière*, or the fixed and circulating capital advanced by the agricultural entrepreneur, and a *propriété foncière* leased from the landowner. Both these capitals have to yield a rate of return, profit and rent respectively.

However, Turgot also puts forward the more conventional idea of rent as a residual, or as '[...] that which remains after the portion of the cultivator has been deducted' (1770:169; cf. n.2 above). A difficulty which arises is how the conception of rent as a rate of return and as a residual can be reconciled. The solution which Turgot seems to be offering is that given the value of the rent and the rate of interest, the value of a piece of land varies in order to ensure a 'normal' ratio of the rent over the value of land. This idea is expressed quite clearly in the following passage:

[...] the current price of land regulates itself in accordance with the relation between the value of the estate and the value of the revenue; and the number of times that the price of the estate contains the revenue is called so many years purchase of land (1766:68).

By the term 'number of years' purchase of the annual rent', or 'the penny price of land' (*le dernier*) is meant the inverse of the interest rate. In Turgot's view the rate of interest functions as a rate of capitalisation; to obtain the value of land, the value of the rent is multiplied by the inverse of the rate of interest.<sup>22</sup>

It is important to note that this view is similar to Cantillon's opinion on the matter, and

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22 As a result Turgot argues that 'it is evident that the lower the interest of money is, the higher is the value of landed estates. A man that has fifty thousand livres in rent, has a property worth only one million, if estates are sold at the twentieth penny; he has two million, if land is sold at the fortieth penny' (Turgot 1766:88-9).

differs from Quesnay.<sup>23</sup> It is true that in 'Observations on the interest of money' (1766), Quesnay acknowledges that there is a relation between the interest obtainable on loan capital and the return that can be obtained by leasing a landed estate which could be purchased with the same sum of money.<sup>24</sup> However, he does not assume there to be some automatic mechanism at work in the economy which prevents the rate of interest from becoming much higher than the value of rent relative to the value of land. With respect to the latter ratio, he argues that each piece of land yields a revenue with 'a [physical] measure which is manifest and limited by nature'. It is this revenue which is '[...] known by the seller and the buyer which decides the purchase price [of land]' (1766a:764).

In contrast, the rate of interest merely depends on arbitrary judgments of lenders and borrowers. Although Quesnay believes 'that the level of interest on money, like the revenue of land, is subject to a natural law that limits the one and the other', he does not believe that the interest rate will automatically conform to this natural law (1766a:764).<sup>25</sup> He perceives a potentially disastrous tendency of the owners of money capitals to lend their money rather than invest it in the purchase of land. There is a danger that the price of land becomes very low and the countryside will waste away. Soon the whole society, which can only exist by virtue of

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23 Cantillon (1755:221-3) states: 'The current rate of Interest in a State seems to serve as a basis and measure for the purchase price of Land. If the current interest is 5 per cent. or one-twentieth part [*le dernier vingt*] the price of Land should be the same. But as the ownership of Land gives a standing and a certain jurisdiction in the State it happens that when interest is one-twentieth part, the price of Land is at 1/24 or 1/25, though mortgages on the same Land hardly pass the current rate of interest'. Prendergast (1991:427) notes that on this point Cantillon holds the opposite view of Petty. 'For Petty it was the return on land that determined the current rate of interest. In Cantillon the direction of causation is reversed, and the current rate of interest determines the purchase price of land'. Note that Cantillon's position also resembles Turgot's view that the return on land is normally lower than the return on loan capital, since Cantillon argues that the price paid for land normally exceeds the annual rent times the 'penny price'. However, while Cantillon's reason for this difference is the greater social prestige and influence which the ownership of land confers, Turgot names the greater security of the property in land.

24 The article commences with the following observation: 'The interest demanded for the borrowing of money is rightly founded upon the relation of conformity which it has with the rent of land [*biens fonds*] and with the profit which the resale trade yields. With money one acquires the property and the rent of land; the property of a land [*un bien*] takes the place of the money capital [*capital de l'argent*] paid for the acquisition of that land, which moreover yearly yields a rent [...]' (1766a: 763).

25 For this reason it may be doubted that Quesnay adhered to a 'fructification theory' of interest which was rejected by Turgot (Groenewegen 1971:327-8). In a 'fructification theory' the interest rate in the economy is determined by the rate of return on land. While Groenewegen is right to reject Böhm-Bawerk's interpretation of Turgot's theory of interest as a fructification theory, it seems questionable to ascribe the same theory to Quesnay. The latter does not say that the rate of interest is determined by the return on land, but that it *should* be. In fact Quesnay has very little to say concerning what determines the rate of interest in the economy. It is precisely because Quesnay believes that interest rates are determined 'arbitrarily', that he argues that the government has to intervene.

agriculture, will suffer. In a word '[...] a false revenue [*i.e.*, interest] which exceeds the order of the real revenue [*i.e.*, rent] is a parasitical outgrowth in a nation, and a disastrous disturbance of the general economy of an agricultural kingdom' (Quesnay 1766a:768). For this reason it is necessary that the sovereign ensures through a constant and equitable positive law that the natural law prevails, *i.e.*, that a legal maximum rate of interest is maintained which prevents the rate of return on money-capital from exceeding the rate of return on land, and the associated detrimental effects to agriculture.<sup>26</sup>

While Quesnay thus maintains that the rate of interest should be made to conform to the relation between the rent and the purchase price of land,<sup>27</sup> Turgot argues that the price of land varies according to the rent and the current rate of interest. The main importance of this difference of opinion appears to be that Turgot denies the disastrous effects which Quesnay believes high interest rates have on agriculture. Turgot argues '[s]uppose that suddenly, a very great number of proprietors of estates wish to sell them: it is obvious that the price of estates will fall, and that with a less sum a larger revenue may be acquired; [...]' (Turgot 1766:87). The implication is that since land becomes again more attractive for investment, more will be bought. In a word, a self-correcting mechanism is presumed to exist which prevents the return on money loans from exceeding the revenue of land by a considerable amount.

While this is a significant difference with Quesnay, Turgot's notion of rent as a return on capital should not be mistaken for an explanation of rent. That is to say, the view that the value of a piece of land is determined by taking as given the rent and the rate of interest, still leaves unexplained why there would be a rent in the first place.<sup>28</sup> This observation is

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26 '[...] should there not have to be a positive and constant law which could fix the rate of interest equitably, which admits as only law, the natural law, that is to say, the real state of revenues produced by nature, and which can be acquired by money; the law of the Prince can merely assign limits which the lender, who could abuse the need of the borrower, can not exceed, leaving the contractants free to agree to a lower interest' (Quesnay 1766...:765). Quesnay proposes that the legal maximum rate should be fixed for ten years at a time, and based on the actual and most common ratio between the price of land and of the revenue.

27 It has to be said that it remains unclear how, according to Quesnay, this latter ratio is determined. While he clearly states that the value of the rent, being known by the buyer and the seller, determines the purchase price of land, this does not explain how this purchase price is reached. One would need a rate of capitalisation to relate the purchase price to the 'rental price' of land. Quesnay seems to simply ignore this. The same is true for Le Trosne (1768a:112), who confines himself to noting that '[...] land is only valuable by reason of its fruits, and the fruits are only wealth by reason of their their [exchange] value'.

28 As was noted, the view that the value of land adapts to a given rent and interest rate merely reconciles the notion of rent as a residual and as a return on capital. That is, as a residual rent (*R*) is the difference between the value of the marketed produce of a farmer minus his costs of production (annual advances + depreciation of primitive advances + 'pure' return on capital advanced + premiums for entrepreneurial labour and risk). As a rate of return *R* multiplied by the penny price of land (*1/i*) gives

especially relevant to Isnard's unsatisfactory treatment of rent. Like Turgot, Isnard tends to treat landowners as a sub-class of capitalists, and their property as one type of capital in a larger category of *richesses foncières*, or fixed capital (see section 7.4.1 above).

Isnard stresses that land is a saleable commodity like any other.

In the system of wealth, a field is a merchandise which serves reproduction, [and which] is exposed to trade and transferred for a certain period to a chief of an agricultural enterprise, just like a piece of land which can hold a manufacture, a grinding mill, a saw mill etc. The product which an owner of a field draws is comparable to the rents [*loyers*] which the owners of pieces of land draw which are suitable for manufactures, mills, and factories (Isnard 1781, I:93, note g.).

Being a durable means of production, the selling price of land is related to the return obtainable on it. To be precise, the former is determined by taking rent and the rate of interest as given (see section 7.4.2 above). However, a question which Isnard hardly addresses is why under competitive conditions land would command a 'rental price' at all, or what is the same thing why landowners would be able to persistently share in the surplus product of society. Neither the notion that lands of good qualities are in limited supply, nor that of the cost of clearing new land is worked out by Isnard.

Moreover, as was argued in section 7.4.2, the perception of both land and the advances of farmers as capital, or *richesses foncières*, implicitly introduces a kind of circular reasoning into the theory of distribution: in order to know the division of the surplus into rent and profits, one has to know the value of the capitals involved, but in order to know the value of the capitals one has to know the distribution of the surplus.<sup>29</sup>

In short, the perception of rent as a return on capital present in the work of Turgot and Isnard, while introducing the complication of the relation between the return on land and the selling price of land, can hardly be seen as an explanation of rent.

### 8.3.3 Differential rent

The above views on rent must be carefully distinguished from the theory of differential rent. According to this theory, rent only arises when the size of the agricultural output required to

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the value of land. This leaves the question unanswered why the difference  $R$  would persist, and consequently why land would have a value at all (the latter being  $R/i$ ).

29 Cartelier (1981) argues that a similar problem exists in Turgot with respect to the division of the surplus between land and capital.

meet its effective demand, is such that plots of land or quantities of capital have to be employed which yield an additional output which is less than the additional output obtainable through the employment of equal amounts of land (extensive diminishing returns) or capital (intensive diminishing returns) at lower levels of output. Competition reduces agricultural prices to the cost of production on the land of the poorest quality (the extensive margin), or the land to which the additional capital has been applied which increases the agricultural product the least (the intensive margin). On all other ('intra-marginal') land a persistent difference between the value of the output and the necessary costs of the farmer exists. This is then appropriated by the landowners as rent. This theory of rent is of course normally associated with the contributions of Anderson (1777), Malthus (1815), West (1815), and Ricardo (1815). It is certainly true that only under the latter's influence the theory of differential rent came to fulfil an important function in the theory of distribution in classical political economy.

However, the notion of differential returns in agriculture does already figure in at least three texts written in the years 1766 to 1768, namely in Auxiron's (1766) *Principes de tout gouvernement*, in Turgot's (1767) 'Observations on a Paper by Saint-Péray', and in an anonymous contribution in the *Ephémérides du citoyen* in 1768. Two distinctions are essential for a proper interpretation of these contributions. First, it must be noted that Turgot provides a brief, but very clear discussion of the phenomenon of intensive diminishing returns. The other two contributions focus on extensive diminishing returns. Second, and more important in this context, one should distinguish between the 'mere' explication of the notion of diminishing returns in agriculture, and the application of the idea to the theory of rent. Turgot does not apply his understanding of the phenomenon of diminishing returns in that manner, but Auxiron and the anonymous reviewer in the *Ephémérides* do. The latter contribution will be examined in section 2.4, after we have discussed the contributions of Auxiron and Turgot.

#### **8.3.3.1 Auxiron on the origin of rent**

One of the most striking aspects of the economic theory put forward by Claude-François-Joseph Auxiron is his persistent emphasis on the notion that there are definite physical limits to economic expansion.<sup>30,31</sup> While the physiocrats and other economic writers of the time

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30 Auxiron was born in Besançon in 1728. Initially he embarked on a career in the army, serving in the Austrasian regiment and later as captain in an artillery regiment. These positions did not leave him enough leisure to pursue his intellectual interests, which were mainly in applied mathematics (a preference

acknowledge the finite quantity of arable land and limits to the improvement of cultivation at most as a constraint on the growth of the economy and the population in the distant future (see above sections 6.2.2 and 8.2), Auxiron adopts these ideas as one of the fundamental principles of his work. He uses it in his highly original analysis of the intersectoral mobility of workers,<sup>32</sup> the theory of taxation, of population and of rent. In each case the idea which is brought to bear is that with the expansion of agricultural production, less and less fertile land will be brought under the plough.

One will first have cultivated the best fields. When the number of people increases, one will ever clear less and less fertile land. The average quantity of labour of the Cultivators, will thus augment with their multiplication (Auxiron 1766, I, 25).

Auxiron states as a general principle that '[a]s the population will increase, the condition of all Workers will become worse' due to the increasing difficulty of production, resulting from the

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he inherited from his father (1680-1760) a doctor and amateur mathematician). He therefore resigned from the army to settle in Paris. In 1765 he published a *Mémoire sur les moyens de fournir des eaux saines a la capitale*, which he later defended against an alternative proposal by Deparcieux. In 1766 appeared his only contribution to economic theory, *Principes de tout gouvernement* (cf. note 23 section 4.2 above). Apart from Baudeau's long review in the *Ephémérides* (1767), the work seems to have had a negligible impact. Turgot calls Auxiron an 'adventurer' (see note 40 below). This suggests that he found it hard to classify Auxiron. *Principes* is simply one of the most original theoretical economic works of the *Ancient Regime*. Perrot's discussion (1983), one of the very few ever undertaken (see next note) is somewhat superficial. Unfortunately, Auxiron's mathematical analysis can not be discussed fully in this place. Appendix B only provides an impression.

31 Auxiron has invariably been interpreted as a precursor of Malthus (see Spengler 1942; Sauvy 1955; Perrot 1983; Hecht 1994). The central role in Auxiron's work of the idea that with the growth of the population additional food production will take place on increasingly less fertile land, is indeed reminiscent of (later editions of) Malthus' *Essay on Population*. In the preface of the book, Auxiron explains that he only considers an autarkic state (1766, I, xxv). 'That state will see itself rise to the greatest possible degree of power, because its population will not stop growing until there are neither new lands to clear, nor known means to render the soil more fertile by more labour and industry. Its population would never have any other limits than those which are given by the size and the quality of the territory' (*ibid.* xxvi). He acknowledges that in reality the import of food may allow the population of a state to grow beyond the size that can be supported by its own agricultural produce, but in order not to complicate his argument he confines himself to the discussion of the autarkic state (see esp. *ibid.* 50). In the final chapter of the work, Auxiron asserts that '[i]f in that State no obstacles to population [growth] are imposed whatsoever, then it will soon happen that the foodstuffs which are collected from the totality of land, will be insufficient for the totality of people. Foodstuffs will thus be scarce relative to Consumers. There will thus necessarily be a large part of Inhabitants who will be forced to restrict their normal consumption, and who consequently will be suffering. Thus, a little after the [size of the] population of a State will have come at a par [*au pair*] with its means of subsistence, it will stop by itself; because those of the poorest classes, having scarcely enough food for their personal consumption, can not maintain families. If children are being born to them, they would not be able to raise them'.

32 See Appendix B.

fact that progressively less fertile lands are taken into cultivation (*ibid.*).

He acknowledges that in agriculture the increasing effort to produce equal amounts of goods on lands of lesser qualities leads to a difference between the incomes of farmers cultivating marginal lands, and farmers cultivating more fertile fields. However, given his assumption in the first chapters of his book that there is no separate landowning class, he does not initially use this income difference as an explanation of rent. Instead he first applies the idea of the decreasing productivity on lesser qualities of land to the theory of taxation.

In order to support the state, or as he calls it the 'class of *Gentilshommes*' which is responsible for the maintenance of the social order, Auxiron assumes that a tax is levied on the produce of farmers. The imposition of this tax should take the decreasing returns on lesser qualities of land into account. The basic view of how the burden of taxation should decrease proportionally with the increasing difficulty of production is articulated in the following revealing passage.

[...] with the number of Cultivators continuing to grow, by dint of the clearing of land, one will really get to types of land [which are] too little fertile to be able to support, in proportion to their product, an equally heavy [burden of] taxation as is supported by the first ones which are cultivated. If the Government, in order to sustain the classe of *Gentilshommes*, would not want to unburden these last lands from a part of the normal payments, they would be abandoned. [...] Towards the end of the clearing [of land], one should find land which could not support any tax, which gives no return to the cultivator, but that which he needs of food to live and to cultivate that land. It is evident for the good of the government, and the good of the state, to demand absolutely nothing from it (*ibid.* 42-3).

In the present context it is especially the point made in the last two sentences which is interesting. It can be said that Auxiron here deduces the theoretical existence of what may be called 'no-tax-land' on the margin of cultivation. That is, 'towards the end of the clearing' of land, farmers are just able to cover their cost of cultivation, and thus unable to transfer any income to the state.<sup>33</sup>

In his discussion of rent, in chapter four of the *Principes de tout gouvernement*, Auxiron comes quite close to applying the same notion of the farmer working at the extensive agricultural margin who gets a return which just affords him the '[...] food to live, and to cultivate that land'. Admittedly, the idea of 'no-rent-land' is nowhere expressed as clearly as

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33 The phrase 'towards the end of the clearing' (*vers la fin du défrichement*) does probably not indicate a situation in which nearly all available land in a state is brought under the plough. Auxiron seems to be well aware that the margin of cultivation does not depend on the absolute 'scarcity' of land in the isolated state. Since the margin of cultivation changes with the growth of population, the phrase should be read as saying 'if one considers the lands which are cleared last'.

that of 'no-tax-land', but the inferior fertility of lands that remain to be cleared is certainly seen by Auxiron as a reason why farmers would rather choose to take a lease.

The primary concern of Auxiron in chapter four, entitled 'Of the ownership of land' is the origin of the ownership in land and the various causes for the inequality in the distribution of land. In this context, he points out that a pre-condition for the existence of the practice of the leasing of land is that property rights in land are unlimited. Auxiron, in a distinctly Lockean fashion, seriously questions the status of landownership as an unlimited right. He argues that there is a natural law '[...] which accords to any man who will have cultivated a field, the right to continue to cultivate it in preference to any other Citizen' (*ibid.* 116). However, this property right in land has natural limits, namely the extent to which a person can cultivate land himself, since

[i]t is evident that the law can never have had the objective of giving Citizens the right to render lands of the State unuseful, if they want, and to not cultivate them. It appears therefore that one must lose the right of property which one has in a land, when one lets it lie fallow (*ibid.* 118).

According to Auxiron, as long as this 'natural restriction' to the property in land is adhered to, the leasing of land could not establish itself.<sup>34</sup> This is so because if of two families one has more land than it can cultivate and the other too little to support itself, then the latter '[...] will take back for itself the land which the other would be obliged to abandon' (*ibid.* 122). However,

[...] if the law leaves that right [*i.e.*, the right in land] without restriction, then the [latter] family [...] will be obliged to contract with the other. The poor will say to the rich: "Give us your lands to cultivate, so that we have a means to live by working, and we will give you a part of the fruits which our work will yield" (*ibid.*).

As a result, a separate class of landowners will emerge. They are unkindly characterised by Auxiron as '[...] people who will harvest on fields which they have not sowed, and who receive from the Cultivator, without giving him anything' (*ibid.* 123).<sup>35</sup>

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34 These ideas are rejected out of hand by Baudeau in the *Ephémérides*. Chapter iv is called the most mistaken part of Auxiron's work (Baudeau 1767, vol. iv, 169) and his views on the conditional character of property rights in land in particular are dismissed as 'bizarre' (*ibid.* 174). According to Baudeau, Auxiron fails to understand that landowners can claim rent because they have incurred initial expenditures (*ibid.* 175-6). In fact, Auxiron seems to be more faithful to Locke's theory of the establishment of property in land, by invoking the latter's reservation.

35 This phrase is reminiscent of Adam Smith (1776, I,vi). As we saw in section 6.4, Morellet is quick to condemn Smith tendency to see the incomes of landowners as deduction from the product of agricultural labour. Auxiron is much more outspoken than Smith on this point. He introduces his chapter on landownership in the following way: 'Let us now see how the property of land could establish itself:



Auxiron is tolerably clear about the point that cultivators will only enter into a lease contract if the alternative of clearing an unowned piece of land is less attractive. This will be the case if only less fertile land is freely available.

When the Cultivators, having become numerous, will have cleared all the good lands [then] through their successive increase, and through the continuity of clearing which will necessarily follow it, there will be a point where it will be more advantageous to a new Farmer to lease [*prendre à ferme*] fertile lands than to clear new ones [which are] much less good. The usage of leases will also be established by that route (*ibid.* 126).<sup>36</sup>

The recognition that a farmer would have a choice between taking a lease and clearing land provides an explanation of the existence of rent in terms of the difference in the fertility of the soil. Without reading too much into the above passage, it can be said that Auxiron argues that farmers will only be prepared to pay rent after all lands of the best quality have been cleared. This idea is also expressed in the following passage

[...] as long as all lands, [or] at least those of a certain quality [*d'une certaine bonté*] will not yet be cleared, nor owned [...] the one who [...] would possess more fields than he could cultivate, would not find anybody who would find it advantageous to do it in his place. Everyone would have at his disposal enough other terrains (*ibid.* 119-20).<sup>37</sup>

It would go too far to state that Auxiron presents a fully developed theory of extensive differential rent. While he clearly expresses the view that rent will only be paid if only less fertile uncleared land is available, he does not say that the rent paid on any field is equal to the difference between the return on that field and the return on the least fertile type of land in cultivation.

However, Auxiron's discussion is arguably the first significant contribution towards the

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how among the Descendants of this [first] association of men who are all equally free and powerful, it could happen over time that some, while leading a perfectly idle and useless life, could acquire the right to enjoy the greatest abundance, and to maintain for their service a group of men equally useless as them; while others, weighed down by overwhelming labour, could only have an insufficient quantity of the most unrefined foodstuffs, and [who] could only see in the future a premature old age hastened by the exhausting excess of pains and the perspective of an terrible and discouraging misery' (Auxiron 1766, I: 114-5). Auxiron seems to be echoing here the views of writers like Rousseau (*Discourse on Inequality* 1755) and Mably (1768:13-20, 37-9). Who emphasise the point that it was the establishment of the private property in land that introduced inequality into society.

36 Note that in this passage it is not assumed that *all* lands need to be in private hands before land leasing will occur. Only the *best* lands need to be occupied. Cf. n. 33 above.

37 See also page 142 (vol.1): '[i]t can be seen that nobody can be found to take a lease, if one does not leave to his Farmer more than what the latter could gain by clearing [new land]'.

formulation of the theory of differential rent.<sup>38</sup> Moreover, it is possible that his views exerted some influence on the anonymous contributor to the *Ephémérides* two years later.

### 8.3.3.2 Turgot on intensive decreasing returns in agriculture

In contrast to Auxiron who almost exclusively discusses extensive decreasing returns in agriculture,<sup>39</sup> Turgot gives a very precise treatment to the phenomenon of intensive decreasing returns in his 'Observations on a Paper by Saint-Péravy' (1767).<sup>40</sup> As is well known, the occasion for Turgot's observations is a criticism of an illegitimate use of the assumption of constant returns by the physiocrat Saint-Péravy. Against the latter's unthinking adoption of Quesnay's customary assumption in various versions of the *Tableau économique* that the ratio between annual advances and output is 2:5, Turgot objects that it cannot be inferred that this proportion between advances and product is always constant.

[...] from the fact that 2000 livres of annual advances applied to a farm will return 5000 francs worth of product, it cannot be concluded that another 2000 livres employed to another plot of ground would also yield 5000 francs, nor that 4000 employed on the same land would yield 10,000 (Turgot1767a:111).

Instead, according to Turgot, it is clear that up to a point of 'ordinary good cultivation' the farmer who increases his advances will experience increasing returns, and past this point

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38 Schumpeter (1954:259) notes that Steuart (1767) and Ortes (1774) present 'the case of the Extensive Margin'. Auxiron's contribution predates that of these writers. More importantly, unlike them, he also *applies* the idea that with the increase of the population poorer soils are taken into cultivation to his discussion of rent. Anderson is normally understood to have been the first writer to put forward the theory of extensive differential rent in 1777 (see Schumpeter 1954:265 and Gee 1987). Prendergast (1987) provides an interesting discussion of the possible influence of Anderson on Malthus. Auxiron's contribution seems to have been overlooked completely.

39 Auxiron does acknowledge that the introduction of new techniques can increase productivity in agriculture. See especially vol. I, 89 and 91 where as examples of technical improvements in agriculture are named the use of manure in the Low Countries, enclosures in England, and improvements in irrigation. However, Auxiron maintains that there is a definite limit to these improvements, and that decreasing returns will eventually prevail. At the end of his work he writes that '[i]f the land would yield in proportion to the works of those who cultivate it, as certain Authors have argued, then that what we say here is completely wrong. But the experience of all places and all ages, shows that the fertility of the earth does not uniquely depend on the works of men'. He singles out Rousseau as the writer who 'has most forcefully maintained the proposition which I dispute' (Auxiron 1766, II: 302-4).

40 It is mainly because of this difference that it seems unlikely that Turgot was influenced by Auxiron on this point. That Turgot knew *Principes de tout gouvernement* is clear from a passage in a letter, dated 26/12/1769, to Dupont. Commenting on a discussion by Dupont in the *Ephémérides* (1769, vol. ix) of a controversy between de Parcieux and d'Auxiron about a proposal to use a steam engine in the water supply of Paris, Turgot remarks: '[...] M. d'Auxiron [...] seems to me, [judging] by the bearing of his reasonings and by his book of *Principes de tout gouvernement* one of those adventurers who write about everything without knowing anything' (Schelle1913-23 III, 77).

he will experience decreasing returns. These progressive changes to the intensive margin are compared to the resistance of a spring to increasing weights being placed upon it.

The fruitfulness of the soil may be compared in this case with a spring which is compressed by loading it successively with equal weights. If the weights are light and the spring is rather stiff, the effect of the first few weights may be almost negligible. When the total weight is heavy enough to overcome the initial resistance, the spring will yield visibly and will compress; but when it has been compressed to a certain point, it will offer more resistance to the force which compresses it, and such weights as would have compressed it an inch, can compress it no more than a fraction of an inch. The effect will thus diminish increasingly. This comparison is not entirely accurate, but it is sufficient to show how, as the soil approaches the point where it yields as much as it can produce, a very large outlay can only increase the product slightly (1767a: 112).

This description of the phenomenon of increasing and decreasing returns in agriculture by means of a rather apt analogy, has rightly been praised.<sup>41</sup> It should be noted though that Turgot uses his description of these important economic principles primarily to make the point that the precise effects of changes in advances on agricultural production may not be easily quantified. The observations are meant as a general criticism of the tendency of Quesnay and his immediate followers to forget that the ratios which they assume in their calculations '[...] are to be regarded as hypotheses only, which contain some degree of realism, and which may be used in mathematical formulae, but from which completely precise conclusions can never be drawn' (*ibid.*109).

While this is indeed a relevant and significant criticism of the physiocrats, it is easy to read too much into Turgot's account. First, there is very little reason to conclude that Turgot opposes '[...] to the massive globality of the arithmetic [of the physiocrats], the marginal finesses of differential calculus' (Larrère 1992:216).<sup>42</sup> Instead of proposing a more precise technique of calculation, the actual conclusion which Turgot draws from his observations about differential returns is that they make exact calculations about the effect of changes in agricultural advances very difficult, if not impossible.<sup>43</sup>

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41 Schumpeter (1954:260) even maintains that Turgot's exposition is of an 'unsurpassable neatness', and insists that '[i]t embodies an achievement that is nothing short of brilliant and suffices in itself to place Turgot as a theorist high above A. Smith'.

42 For all we know, Turgot was not very well versed in mathematics (cf. note 53 in section 7.3.3), making it perhaps unlikely that he envisaged the possibility that the phenomenon of differential returns may be described using the new branch of mathematics. This is apart from the question whether differential functions are the most suited to express the phenomenon of decreasing returns in agriculture.

43 He remarks that 'I have dwelt extensively on this point [of differential returns] because it is important not to surrender too easily to the hope of estimating with complete accuracy the decrease in total product caused by the decrease in annual advances when indirect taxation has broken into the latter' (1767a: 113).

Second and more important, there is little evidence that Turgot attempts to use the principle of decreasing returns in any consistent way as an explanation of rent. The opposite interpretation is given by some commentators. Brewer (1987:425; 1992:190) makes a rather strong claim that Turgot has a theory of differential rent.<sup>44</sup> In support of this interpretation he quotes a few passages which may possibly be read as stating that agricultural production will be expanded up to the point where the return on capital advanced by the farmer is equal to the interest rate on money capital.<sup>45</sup> It is argued that this implies that one would find no rent land at the margin of cultivation, while all intra-marginal land would yield rent. In fact, Turgot nowhere presents the notion of differential returns as an explanation for the persistence of rent on intra-marginal lands. Brewer's claim (1987:426) that even though 'Turgot did not say this in so many words, [...] the implication is so obvious and so direct that there was no need to', must therefore be seriously questioned.<sup>46</sup>

The main problem with this interpretation is that it greatly exaggerates the difference between Turgot and the physiocrats with respect to the explanation of rent. According to Brewer, the reason why the physiocrats (in contrast to Cantillon) could not explain the persistence of rent, is that they assume that land 'was far from fully used'.<sup>47</sup> Turgot is said

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44 Brewer claims that Malthus, West and Ricardo merely 'rediscovered and popularized' Turgot's theory of rent. A similar interpretation is given by Thurlings (1978:186).

45 The two main passages cited by Brewer are the one in which Turgot praises Quesnay for having shown the relation between agricultural prices and rent (1763, see above note 13), and section 91 of the *Reflections* (1766) where Turgot makes the famous analogy between the interest rate and the watermark (see above section 7.3.3.).

46 If Turgot had adopted the principle of differential returns as a general explanation of rent he should at least have assumed that cultivation had extended to a point where at the extensive or the intensive margin decreasing returns had arisen. With respect to the extensive margin, there is no real evidence that Turgot recognised this phenomenon (cf. section 8.2 and note 20 above). With respect to the intensive margin, Turgot explicitly notes that he believes that the '[...] point at which the augmentation of the advances would not increase the output in proportion to the increase of expenses [...] is far from being attained' (Turgot 1767a:125-6). Brewer's claim that this argument only applies to regions where small-scale farming is prevalent, while Turgot assumes decreasing marginal returns in the Northern provinces of France with mainly large scale farming is not very credible. Nowhere does Turgot state that the latter is the case. Instead, especially in the sixth 'Letter on the Grain Trade' (1770), Turgot appears to refine the physiocratic argument concerning the effect of favourable agricultural prices on the extension of production. He argues that the farmers will increase the scale of cultivation each time that they make larger than normal profits (see 1770a:172; cf. section 7.2.2). If anything, this indicates increasing returns in agriculture.

47 Brewer (1992:161). It is argued that while this assumption '[...] was probably an advance in realism, it undermined the coherence of the theoretical system' of Quesnay (*ibid.*). The problem with this statement is, on the one hand, that it is of course not necessary that all land is 'fully used', or even owned, before differential rent can arise (as Auxiron's case shows; cf. notes 33 and 36 above), and on the other hand, that if one assumes that all land in an economy is used this does not by itself amount to a theory of differential rent (as Cantillon's case demonstrates). The 'full use' of land (and 'scarcity' in that sense)

to have (re)introduced consistency into the theoretical framework of classical political economy by assuming that cultivation has extended up to a point where diminishing returns have arisen. Brewer draws from this the rather grand historical conclusion that by adopting the theory of differential rent Turgot '[...] anticipated the "Ricardian" theory of distribution' and that for this reason he must even be regarded as 'the founder of classical economics' (Brewer 1987:417,426).<sup>48</sup> Instead, it seems more warranted to say that the fact that Turgot does not apply his superior discussion of increasing and decreasing returns in agriculture to the explanation of rent, means that most of what he has to say about rent differs little from the opinions of the physiocrats.<sup>49</sup>

## 8.4 Synthesis

A fascinating discussion of rent is presented in 1768 in a review of Graslin's *Essai analytique* in the *Ephémérides*.<sup>50</sup> Although this discussion of rent comprises only a few short pages, it is highly relevant because of its combination of the notion of differential returns, with the other two explanations of rent discussed separately above. As such, it throws a surprising light on the relation between the different explanations of rent put forward in the later physiocratic literature.<sup>51</sup>

Since the writer is only indicated with the initial 'N', it is not possible to establish the authorship of the article with certainty.<sup>52</sup> However, some brief speculations about the identity of the writer seem in place. The many physiocratic arguments used in the article make it likely

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is neither a necessary, nor a sufficient condition for a theory of differential rent.

48 The latter claim is compounded by his use of a rather narrow definition of what constitutes classical economics. He argues that an essential criterion for an economic writer to be called a classical economist, is the presence in his work of a consistent explanation of the division of the surplus between profit and rent (1987:427, note 7). If this criterion is applied with some rigor no economist before Ricardo, *i.e.*, neither Cantillon, nor the physiocrats, nor Smith would qualify. It is therefore not a very useful criterion.

49 This conclusion is in accordance with the more traditional interpretation given for example by Spengler (1945:200 n26) and Groenewegen (1983a:589).

50 'Examen d'un ouvrage intitulé *Essai analytique sur la richesse & sur l'impôt*', *Ephémérides du citoyen* 1768, volume 10, 165-206. The discussion of rent is on the pages 194-96.

51 Weulersse (1910,II,635) was probably the first to point out that the theory of differential rent is put forward in the article. However, he does not discuss the further attempt to relate this theory to the notions of rent as a compensation for the *avances foncières* and rent as a return on capital.

52 Spengler (1942:178 n.74) suggests that the writer may have been Quesnay himself. However, Hecht (1958, II,301) judges that this is probably not the case. Indeed, apart from the fact that Quesnay sometimes used the initial 'N', there seems to be little reason to ascribe the article to Quesnay.

that the author was quite closely associated with the *économistes* (this would rule out Auxiron). Perhaps it can even be conjectured that the author had close ties with Turgot.<sup>53</sup> It is not improbable that Le Trosne is in fact the author of the article. There are three specific reasons for this suggestion. In the first place, some terms used in the text suggest a writer with a legal background.<sup>54</sup> Second, on other occasions Le Trosne shows a particular interest in the refutation of utility theories of value, which makes him a likely candidate for a review of Graslin's book.<sup>55</sup> Third, and most important, there are a few passages dealing with rent in Le Trosne's other works which are reminiscent of some in the review in the *Ephémérides*. Of course these points merely add up to an informed guess as to the authorship of the text.

With respect to the argument of the article, it is important to note that the theory of rent is discussed within the context of the general theory of competitive value. In response to Graslin who holds that the factors 'need and scarcity' determine relative prices, the reviewer maintains that relative prices reflect the costs of production of commodities (*prix de compensation* or *prix nécessaire*). The reviewer argues that in a free exchange contracting parties have to be compensated for all the costs incurred in the production of their merchandise, and that therefore the determination of the necessary price of each type of merchandise is a summation of all items of cost (1768:184). In the case of agricultural goods the following summation is suggested:

[...] one can easily establish the necessary price of the different agricultural products: 1st. the cost of their cultivation; 2nd. the interest at 10% for the advances of exploitation; 3rd. the natural interest of landed advances; 4th. the tithe; 5th. tax (1768:187-88).

The third item, the *intérêt naturel des avances foncières*, stands for the rent paid to the

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53 It is unlikely that Turgot himself is the author, since a theory of profit is almost completely absent from the article. Interestingly though, in a letter to Dupont (2/12/1768), Turgot remarks: 'I have received volume XI of the *Ephémérides*, and I have seen with great pleasure that the *Examen de l'examen* has not been included [...]'. This may be a reference to a response (which has not been found) to the *Examen* in volume X of the *Ephémérides* of 1768. This reaction suggests that Turgot was if not involved, at least did approve of the refutation of Graslin by the physiocrats. It may also reflect his approval of the theory of rent outlined in the *Examen*.

54 For example the statement that exchanges are subject to '*des règles justes & précises pour garantir tous les contractans de lésion, en procurant à chacun d'eux le retour le plus avantageux*' is reminiscent of Le Trosne 1777b chapter 2. Admittedly though, the particular term *prix de compensation*, used in the article to denote something like 'price of production' does not appear in (other) writings of Le Trosne. Moreover, Le Trosne is not the only physiocrat who frequently couches his economic ideas in legalistic language.

55 More specifically the author makes a distinction between *excédent* and *superflu* which is quite specific to Le Trosne (see above section 2.2 notes 14 and 26).

landowner, and is singled out for further discussion.<sup>56</sup> In the first place, rent is explained as a compensation for original expenditures made by the landowner to bring the land in an arable state. A landed estate has itself a necessary price which is related to the expenditure of capital (*richesses mobilières*) on it.

There is no product which is not the fruit of an expenditure; [...] The necessary price of a house is the value of the materials which compose it, that of the land on which it is build, and the expenditure of its construction; [...] Similarly, it is, so to say, by attaching moveable wealth [*richesses mobilières*] to the land, that one can gain a landed property [*propriété foncière*] (1768:185-6).

The necessary price of a landed estate, the author argues, consists of all costs incurred in the erection of various buildings, fences, the digging of canals etc. (*ibid.*). The author is quite clear why it is this necessary price, and not a higher or lower one, which is normally paid when land is sold. This is so because

[...] without unjust lesion one can [on the one hand] not give a lesser value to the founders of [landed properties], or to those who represent them, [while on the other hand] they can not claim a higher [value] for it, because everybody would prefer to found new landed properties over purchasing old ones: the competition in the employment of moveable wealth decides about the acquisition price and about the revenue [*i.e.*, rent] of landed properties (1768:186).

This passage implies, first, that the necessary (own) price of land is equal to the cost of bringing an uncleared plot of land in a similar arable state (if it were higher 'everybody would prefer to found new landed properties'). Second, the rate of rent paid on existing estates is limited by the return on moveable wealth employed in clearing new land. Importantly, at this stage of the discussion the notion of differential returns is not yet introduced, and rent is strictly explained as the opportunity cost of an initial clearing expenditure. The argument is much the same as in section 8.3.1., but here it is given a specifically *economic* application.

A further observation is made with respect to the ratio between rent and the original expenditures on the land.

The revenue of those [landed] properties must therefore also have a certain rate; it must at least be the ordinary interest on the expenditure applied to the landed property; otherwise nobody would create any [arable land], and everybody would prefer the more advantageous opportunity [*le sort plus avantageux*] to be found elsewhere by investing his moveable wealth [there];[...] (1768:187).

This argument is reminiscent of the one discussed in section 8.3.2. The possibility of employing

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<sup>56</sup> The first two items are the returns of the farmer, probably the replacement of *avances annuelles* and *avances primitives* respectively. On page 183 of the article it is explained that item 4 is due to the church, and 5 to the state.

capital *outside* agriculture can be taken as the alternative to clearing new lands, (or buying existing estates), and receiving rent by leasing them out. It is probably for this reason that the author adopts the expressions 'natural interest of landed advances', and 'rate of rent' [*taux du revenu*] to denote rent: the landowners' income is comparable to the interest rate on money capital.

It is only after these two considerations that the notion of decreasing returns on lesser qualities of land is introduced as a 'natural reflection [...] which could favour an uncertainty, and furnish the subject with an objection' (1768:194). The issue is the following:

Fertile lands yield a reproduction which is sufficiently abundant to face a meagre price for all the items which we have indicated.<sup>57</sup> In contrast, the produce of unfertile lands [*terreins maigres*] can only be sustained by enjoying a rather high price. Nevertheless there can not exist at the same time two different prices for a same product, even though each quality of land [*chaque qualité des terres*] may require a particular one. Which [price] is then the one which must be regarded as the common necessary price [*le prix commun nécessaire*]? (1768:194).

In other words, the fact that the returns in agriculture vary depending on the quality of land in use, complicates the theory that the prices of agricultural goods reflect their necessary costs of production. Since there can only be one price for the same product, the question is on which type of land the 'common necessary price' is determined. The author asserts that this question can be answered if one considers what the most favourable size of agricultural output is in order to feed the population and to support the state. Here the answer can only be

[...] the largest possible quantity of [agricultural] products, in order to be able to maintain a great population in abundance, which, moreover, multiplies itself everywhere proportionally to the multiplication of subsistence goods [ and in order] that there be a net product on all lands [allowing] a large public revenue (1768:194-5).

However, this 'largest possible' size of output necessitates the use of lesser qualities of land. From this observation a crucial consequence is drawn with respect to the necessary prices of agricultural goods. It deserves to be quoted in full:

[...] it follows that the true necessary price must be measured on the produce of the most unfertile lands [*les terres les plus ingrates*], provided that they are used in the type of cultivation which is best suited [*le plus analogue*] to their quality, and that they are endowed with a sufficient quantity of wealth of exploitation. I say on the produce of the most unfertile lands, because it is there where the extent of cultivation stops, which only stops where the earth will not return the costs of cultivation. And it are in fact the prices which establish those limits, and which establish, also through the price, the limits of the cultivation of different products which become more or less profitable (1768:195-6).

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57 This refers to the five items distinguished in note 56 above.



Thus the 'true necessary price' [*le vrai prix nécessaire*] of agricultural products is the one which is necessary to allow production at the extensive margin of cultivation, or at the least fertile land in use.<sup>58</sup> This conclusion is the more remarkable since the extensive margin is discussed in the specific context of the level of rent and the theory of relative prices.

It is important to note that the view that 'cultivation stops where the earth will not return the costs of cultivation', and that the level of agricultural prices determines this limit, does not lead to the idea of 'no-rent land' at the margin of cultivation.<sup>59</sup> The notion of differential rent does *not* replace the notions of rent as a compensation for the *avances foncières* and as a return on capital. Instead, the author makes an attempt to reconcile the three insights. This interesting reconciliation is put forward in the following passage:

At first sight, the fertile lands appear to give too favourable a lot to their owners, since they [*i.e.*, the intra-marginal lands] return much above the necessary sums which they [*i.e.*, the landowners] have expended. But this opinion disappears when one discovers that the whole of the difference [in rent] which will distinguish it [*i.e.*, the more fertile lands from the least fertile] makes that the fertile soil will itself have a value in excess of that of its landed advances. In contrast, the infertile lands do not have any [of this extra value], and their price will only simply represent the costs of the creation of their property. The whole of the advantage of the former [lands] will limit itself to the first Owners, because all those who will succeed them always only have a revenue proportioned to the price of the acquisition of their Estates (1768:196).

Here rent can be said to be explained in two ways. On the marginal land the rent will '[...] only simply represent the costs of the creation of [landed] property'. Rent is still paid on this arable land of the least quality because the alternative of clearing land is costly. Perhaps it may even be said that land is cleared up to the point where the ratio between rent and the costs of clearing, or the *avances foncières*, is the same as the rate of return that could be obtained in alternative employments of capital. On the other hand, on the intra-marginal lands a higher rent is paid and the relation between rent and the landed advances is broken. Instead the equalisation of the rate of rent to the general rate of return on capital takes place through a variation in the

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58 The observation that it are 'the prices which establish those limits' of cultivation, shows quite clearly that the author is well aware of the fact that the margin of cultivation is variable. That is, he does not presume that land is fully used. Cf. note 47 above.

59 This is not too surprising if one considers that the theoretical existence of 'no-rent land' is an assumption used by Ricardo, with the highly specific aim to 'get rid of rent' in his theory of the distribution of income between profit and wages. Ricardo assumes that relative prices are determined at the margin of cultivation where only wages and profit enter into the natural price of commodities. Rent is therefore not seen as a 'price determining' factor at all. 'But that corn which is produced [on marginal land] is the regulator of the price of corn; and rent does not and cannot enter in the least degree as a component part of its price' (Ricardo 1817). Instead rent is 'price determined', *i.e.*, it is only paid (on intra-marginal land) if agricultural prices are high enough.

value of land. The latter view about the rate of capitalisation of land is strongly reminiscent of Turgot's opinion about the valuation of land, discussed in section 7.3.2.

Perhaps the theory as a whole can be summed up in the following simple formula  $R/A+L = i$  (where R stands for the monetary value of the rent, A for *avances foncières*, L for the value of land in excess of the *avances foncières*, and i for interest rate). On the marginal land L is zero, and agriculture is expanded to a point where rent is simply 'the natural interest of landed advances'. On the intra-marginal lands, where rent exceeds that of the marginal land, L is greater than zero in such a way that the 'rate of rent' remains equal to the general rate of return on capital in the economy. It seems that this is the manner in which the anonymous author tries to reconcile the notion of decreasing extensive returns in agriculture with the theory that relative prices are determined by costs of production.

While the author does not state it explicitly, rent is in this text treated partly as a 'price determining' and a 'price determined' factor. The rent paid on the least fertile land is 'price determining' since it has to be paid in the 'true necessary price'.<sup>60</sup> The additional rent paid on the intra-marginal lands is 'price determined', since the 'common necessary price', being determined on the marginal land, makes that the landowners receive a '[...] return much above the necessary sums which they have expended'.

In conclusion, the short discussion of rent in the *Ephémérides du citoyen* of 1768, throws a surprising light on the relations between the different views on rent in later physiocratic literature. It attempts to reconcile these different views. Most importantly, it shows that the notion of decreasing (extensive) returns in agriculture is not generally incompatible with physiocratic theory. However, it would go much too far to claim on the basis of this single text, that the physiocrats achieved a consistent theory of the persistence of rent. Nevertheless, as has been argued, there were at least some promising attempts to formulate such a theory as early as the late 1760s. The point that the theory of rent remained to be developed is conceded by the anonymous author himself who remarks in the conclusion of the article

[...] this digression [...] was occasioned by the discussion of values, and has turned out the more interesting since the issues which it dealt with are still little known (1768:204).

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60 As such it may in the final analysis be considered as a minimum absolute rent which has to be paid on every type of land.

The general aim of the previous chapters has been to examine in which respects physiocratic theory is qualified and developed in the economic writings of Le Trosne, Turgot, Morellet and Isnard. It is certainly not the case that all their ideas can easily be related to Quesnay's approach to economics. In particular Turgot and Isnard are writers of considerable originality. What is more, many of their contributions suffer from being unfinished, something which complicates their interpretation. For example, there remains considerable room for speculation how or whether Turgot could have developed his enigmatic draft 'Value and Money' (see sections 2.3.4.1 and 2.3.4.2).

Nevertheless, many of their contributions *can* be understood within the analytical framework of François Quesnay, whose greatest merit is perhaps to conceive the economic process as a single reproductive system. One easily overlooks how strikingly simple and abstract a conception of the economy it is. Le Trosne sums up the basic idea in a single sentence:

Society [...] perpetuates itself through the uninterrupted circle of reproduction and consumption, supported by the inexhaustible fertility of the earth, aided by the labour of man and by advances (Le Trosne 1777b:923-4).

Of course, regardless of what his more zealous followers may have believed, the theory of the economy as a 'circle of reproduction and consumption' did not emerge fully grown from Quesnay's head. There remain many flaws and ambiguities in his work. Some of them are basic, such as his concept of value or the doctrine of the exclusive productivity of agriculture. Within the larger picture of the history of classical political economy it may be said that such issues are developed in writings of famous theorists like Smith, Ricardo and Marx. However, as we have seen, some more immediately attempts to develop Quesnay's analytical framework are already undertaken in France in the 1760s and '70s. Sometimes hesitant and sometimes incisive, the contributions of Le Trosne, Turgot, Morellet and Isnard often throw a surprising light at the theoretical nature and possible further development of physiocracy.

In conclusion, a few outstanding elements of this body of theory, placed in perspective by these later writers can be briefly summed up. A first point relates to Quesnay's theory of production. Quesnay conceives production as a circular process in which previously produced goods are 'consumed', yielding a total product of which part is required in the next round of production while another part, the net product, is 'disposable'. While this fundamental conception is adopted by all the writers examined, the most promising alteration is made by Isnard. He enriches the theory by arguing against the convoluted 'physical difference' between agricultural and industrial production (Turgot), or the difference between 'generation' and 'addition' of wealth (Quesnay). According to Isnard, any kind of production can be formally understood simply as a process during which the physical 'form' of inputs is transformed. Whether a particular activity contributes to the physical

surplus [*masse réelle*] of society depends on whether it produces goods in excess of the reproductive requirements of the economic system as a whole.

The significance of this subtle change to Quesnay's notion of surplus is twofold. First, Isnard discards the idea that any particular input (or sector using this input) could be identified as the 'source' of the social surplus. Second, he establishes more clearly than the physiocrats that the net product is a physical magnitude existing prior to distribution. This is remarkable in view of the prolonged controversies in the works of later classical political economists and Marx with respect to both of these points.

A second aspect of physiocratic theory highlighted in the work of Le Trosne and Isnard, is the notion that products only 'acquire' value in exchange. The principal application of this idea in Quesnay's work is the opinion that agricultural producers 'find out' the value of their produce in the 'sale at first hand'. It is the moment of sale at which producers are confronted with the 'actual demand' [*débit*] for their products ruling their productive decisions (see section 4.3.1). A more basic expression of the same notion is the apparently obscure physiocratic opinion that useful physical products [*biens*] only 'acquire value' and 'become wealth' [*richesses*] in exchange (section 2.2). It is this general notion that is formally developed in Isnard's remarkable algebraic analysis of exchange. His contribution can be seen as a generalisation of the physiocratic view in the sense that it demonstrates how relative prices are established through the 'balancing out' in the market of quantities of *many* physically 'heterogeneous' merchandises.

An interesting conceptual aspect of this analysis is that 'value' is strictly understood as a relative and objective exchange ratio. A very similar notion of value as simply a 'relation of exchange' is defended by Le Trosne. This confirms the interpretation that Isnard's analysis is essentially an elaboration and formalisation of the physiocratic position. The idea that strictly speaking 'value' or 'price' only 'exists' in exchange (or as Isnard expresses it, that '[...] useful things stop being wealth when their relation [of exchange] is annulled') is another remarkable theoretical position. The attempt to hypothesise an 'underlying' single determinant of value (like 'land' in Cantillon, or 'labour' in Ricard or Marx) is conspicuous by its absence.<sup>1</sup>

The relation between on the one hand the theory of production and on the other hand the theory of exchange is not a straight-forward matter. The prices which products realise in the market are not simply ones allowing for the replacement of the advances used up in production. Essentially,

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<sup>1</sup> This 'agnostic' attitude differs even more radically from attempts to relate the exchange value of products to their use value, as the reactions of writers like de Brancas, or Condillac indicate (see section 2.2 note 30). At the same time, Turgot's attempt in 'Value and Money' and Morellet's responses to it, suggest that this was a very difficult point.

this is because there is a 'net product' to be distributed.<sup>2</sup> It is especially this fact which lends a social (as opposed to merely technical) character to the physiocratic theory of value and distribution. That is to say, it elicits the question how the net product is distributed among the social classes.

This issue relates to a third aspect of physiocratic theory that is further developed by Turgot and Isnard. It is the idea that the surplus, after *originating* in the 'sphere of production', is *distributed* through the *realisation* of relative values in the market.<sup>3</sup> Quesnay suggests a clear-cut rule for the distribution of the net product. Under ideal market conditions only the current prices of agricultural products exceed the costs of their advances (or 'fundamental price'), so that the whole net product devolves to the agricultural sector. Initially the net product is appropriated by the farmers, but eventually it is paid in full to the landowners as rent.

This distributive outcome is based on rather ambiguous assumptions about the nature of competition. In particular, a) it implies that competition in the markets for manufactures works differently from that in agricultural markets, and b) there does not appear to be any competitive explanation of why farmers would pay for the use of land. Attempts are made by Turgot and Isnard to offer alternative competitive explanations for the distribution of the surplus. In the *Reflections*, Turgot does not so much reject the doctrine that agriculture produces the net product. However, he qualifies Quesnay's ideas with respect to its distribution (sections 3.3.1 and 3.3.2). In the first place, he transforms the latter's social classification. Where Quesnay's distributional problem is predominantly one between the classes of landowners, of farmers and of artisans and merchants, in Turgot it becomes one between landowners, entrepreneurs and wage labourers.<sup>4</sup> Second, he introduces the seminal idea that under competitive conditions the market price of any product (*i.e.*,

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2 It may be conjectured that the theoretical problem posed by the existence of 'disposable wealth' is an important, perhaps the main reason why Isnard failed to relate his equations of production and of exchange to each other, and why he resorts to the assumption of unexplained prices in the former and unexplained traded quantities in the latter (cf. note 87 section 3.5).

3 Some readers may still doubt whether Quesnay actually envisaged such a sequence. This is because in the *Tableaux* Quesnay assumes given monetary values to the advances and to the net product and thus in a sense 'prejudges' both the market valuation of products and their distribution. It must be noted again that it is *exactly* this point which is seized upon by Isnard, thus highlighting this important feature of the Quesnay's theory. Indeed, Isnard sees the distinction between (physical) 'production' and 'distribution' (through the realisation of values) as one of his principal contributions. In the preface of the *Traité des Richesses* he announces that he will demonstrate that '[i]t is a mistake to maintain that there is any kind of wealth which does not yield a net product above costs. Of all particular kinds of products, one part belongs to production, the other to enjoyment; the sum of parts belonging to production forms the general mass of the costs of production, the sum of the other parts forms the general mass of disposable wealth. The *values* of particular products determine the share of the total mass of disposable wealth which devolves to each producer; this share varies with the difference between the values of products and of the objects necessary to production which the producer has to purchase' (Isnard 1781,I:xv; emphasis added).

4 This transformation is not total in the sense that on the one hand the former already distinguishes entrepreneurs from workers in agriculture, and on the other hand the latter does not employ his new classification consistently. See chapter 5.

agricultural as well as industrial) tends to cover not only the advances used up in its production, but additionally a 'normal' rate of profit (as well as a compensation for entrepreneurial labour and risk) (see section 7.3.3). Thus he assigns a specific type of surplus income to the 'entrepreneurial class', or the agents which advance capital and organise production, which is much more stable than the temporary difference between the 'current price' and 'fundamental price' enjoyed by agricultural entrepreneurs in Quesnay (section 7.2.2).

Third, with respect to the theory of wages, Turgot's ideas differ relatively little from the physiocrats (see section 6.1 to 6.3). Their theory centres around the notion of the 'fundamental price' of labour. This is a minimum level of wages tending to be established through the great competition among workers and which can not be permanently reduced. In particular Turgot emphasises the idea that in a liberalised economy a relatively stable 'natural proportion' establishes itself between money wages and food prices, the main expenditure of workers. It is not a flawless theory of wages. One vagueness in this theory, concerns the precise content of the fundamental wage; is it an absolute subsistence level, or an socially accepted minimum which allows the worker to raise a family and 'reproduce himself'? Another ambiguity concerns the efficacy of the mechanisms assumed to maintain or restore the fundamental level of wages. A third problem concerns the ability of the economic system to provide enough employment (section 6.2.2). On the whole it may be said that to the physiocrats the establishment of an 'adequate' or 'natural' level of wages is not merely a matter of economic theory but also an article of faith that the liberalised market economy can be trusted to provide subsistence to the working poor.

Fourth, with respect to the theory of rent, Turgot does not go much beyond the physiocrats, despite a very clear understanding of the principle of diminishing returns in agricultural production (see section 8.3.3.2). Like Quesnay, he conceives rent as the difference between the sales value of the agricultural produce and the necessary costs of farmers (including, a rate of profit). However, a competitive explanation of the persistence of this difference is lacking. Surprisingly enough, an attempt at such an explanation is nevertheless already made in the physiocratic literature. In 1768 in an anonymous contribution to the *Ephémérides du citoyen* a solitary effort is made to incorporate the phenomenon of decreasing extensive returns into the physiocratic theory of rent. Possibly following suggestions of Auxiron (1766) that rent only arises once cultivation has to take place on lesser qualities land (section 8.3.3.1), it is explicitly argued that the necessary price of agricultural products [*le prix commun nécessaire*] is determined on the least fertile land in cultivation, affording a differential rent on all intra-marginal land (section 8.4). If anything, this contribution demonstrates the high analytical level and the potential for adaptation of physiocratic theory.

Isnard's theory of distribution is in comparison with Turgot much more ambiguous. A major

reason for this is that he is less successful in superseding Quesnay's social classification (see chapter 5). As a result, it is hard to distinguish his theory of wages from his anti-physiocratic argument that the industrial sector can appropriate some of the surplus through the sale of its products (see section 6.5).<sup>5</sup> Possibly for the same reason, in his theory of profit Isnard tends to ignore the *avances annuelles*, an important part of which consist of advanced wages in physiocratic theory. Nevertheless, Isnard's theory of profit is quite interesting not only because he attempts to give a formal description of the tendency towards a uniform rate of profit (see section 7.4.1). He also attempts to develop a notion of a general rate of profit [*intérêt général des richesses*] which leads him into the difficult theoretical problem of the valuation of capital (see section 7.4.2). Finally, a theory of rent (distinguishable from the theory of profit) is virtually non-existent in Isnard's work.

Despite these and other substantial differences between Quesnay, Turgot and Isnard, there is an agreement between the three theorists which is even more fundamental. It is the basic analytical approach of distinguishing between the three moments of (surplus) production, market valuation, and distribution followed by a repetition of production. Again, neither of them is wholly successful in synthesising all these elements into a single comprehensive economic model. Just as Quesnay's *Tableau économique* '[...] cannot be regarded as a synthesis of physiocratic economics' (Vaggi 1987:167), Turgot's *Reflections* are by his own admission only 'a brief outline' building on the *Tableau* in which he 'did not want to include any algebra' (see above section 7.3.6). Indeed, Isnard who actually uses some, is unable to illustrate more than isolated ideas by it.

In any case, although fascinating, it may be doubted whether the attempts by Quesnay and Isnard to apply mathematics to their highly abstract conception of the economic process should be considered as the principal outstanding element of their work. What evinces the rich potential of physiocratic economics perhaps more than anything is the fact that various more specific economic phenomena are quite easily related to the basic conception of the economy as a reproductive system. For example, the idea that some classes in society annually receive incomes which are in excess of reproductive requirements forms an excellent foundation for a theory of accumulation and economic growth. Indeed, the notion of capital accumulation as saving out of the surplus is pioneered by Quesnay, and refined by Turgot in his theory of profit and his analysis of savings and investments (sections 7.3.1 and 7.3.6). Another example is, the understanding of merchants as 'intermediaries' between producers and consumers who profit from spatial and temporal price fluctuations, but whose uninhibited activities tends to efface those same fluctuations (section 4.2). There are even interesting attempts to account for the role of 'money' (such a theoretically difficult phenomenon) within the

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<sup>5</sup> This ambiguity is also present in the physiocratic discussions of wages, and is by itself an interesting reflection of the predominant organisation of industrial production at the time.

circular economic process. Morellet gives a detailed account of the idea (also held by Turgot, Le Trosne and Isnard) that money should be understood as a commodity which in 'simple circulation' is the one which is commonly used as 'measure of value' and 'means of payment' (section 4.4.1). As 'active capital' or in the 'true circulation of money' it is the 'principal instrument of the formation of capitals' (section 7.3.2).

Once more, all these contributions primarily indicate a potential rather than the final accomplishment of a comprehensive economic theory. It is probably largely due to the unfinished and abstract character of their works that Turgot and Isnard exercised relatively little influence on later generations of economists, and that the influence which they may have very belatedly had on writers like Böhm-Bawerk and Walras only pertains to a few isolated ideas. However, seen in the context of physiocratic theory their works do not only reveal a basic approach to economic theory which is shared in many respects with classical political economy at large. They also anticipate some of the finest performances in this field.



### Appendix A. Needs claims versus property claims in the natural jurisprudence tradition

As a background to the claim that the physiocratic theory of wages serves specific moral purposes a necessarily very brief outline is useful of how some great natural law authorities dealt with this problematic of the claims of the poor to subsistence. The appropriate role of government and function of charity in periods of dearth, had been a persistent issue to the modern natural lawyers, who in turn took over this theme from the scholastics (cf. Hont and Ignatieff 1983:2). In Aquinas the opposition between the needs claims of the poor and the private property claims of the rich, was presented as one between two 'competences' which both derived from man's role as steward of creation. The entitlement of all human beings to means of subsistence, derived from the fact that God had given to mankind a collective 'competence' of the stewardship over His creation. At the same time however, Aquinas argued that private property was not contrary to natural law in so far it facilitated care for God's dominion, giving rise to a second 'competence' (See e.g. Langholm 1992). Importantly, both competences were (in theory) very much treated on an equal footing, and Aquinas left no doubt that if some people suffered from necessity, they could, as a matter of natural law, claim some of the wealth of others, *i.e.*, needs would outweigh private property claims (See Parel 1979, Hont and Ignatieff 1983:27, Langholm 1992).

From Grotius onwards, within the dominant movement in the natural jurisprudence tradition important inroads were made on the juridical status of the claims to subsistence in favour of the status of private property. In general, the former claims came to be seen more and more as 'imperfect rights', or a question of charity, while the latter claims were gradually considered as 'perfect rights', or strictly enforceable by natural law. This distinction between benevolence and charity, or 'distributive justice' on the one hand, and the strict justice of property and contracts on the other hand 'was a most important premise of post Grotian jurisprudence' (Hont 1987:255; Cf. Hont and Ignatieff 1983; Haakonssen 1985:66). As these writers explain this distinction involved a reinterpretation of Aristotelian classifications. What Aristotle had called *particular* (or *expletive*) justice, relating to powers (over oneself), property rights and contractual rights, were identified by Grotius as perfect rights. By contrast what Aristotle called *universal* (also *distributive* or *attributive*) justice were imperfect rights, merely describing what was 'fitting' or 'suitable'. The latter was not the case in Aristotle and Aquinas. See Gordley (1991). Grotius also already maintained that only perfect rights were ones which were necessary for the maintenance of the social order.

One main way in which Grotius contributed to this shift in emphasis was by historicising the distinction between common and private property. Originally, Grotius argued, God had granted a dominion of things to mankind in general, (a situation which still could be seen among the American Indians, who did not know private property in land) (See Stein 1980:7). However, with the development of new needs land had been divided up between families in order to prevent disputes. The allotment of land went according to the rule of first occupation, which in Grotius' view was confirmed by a single moment of compact (Tuck 1979:77 argues this. Hont and Ignatieff 1983:28-9 maintain slightly differently that Grotius argued that there had been a first

division by compact, and that the rule of first occupation only applied to what had not been divided at first). However, Grotius did not go so far as to draw the conclusion that once land and moveables were held in private possession this meant that the propertyless did not have any claims on goods at all. He asserted that there existed a 'benign reservation' to the private appropriation of common property, namely that in times of necessity private property was suspended 'in favour of the primitive right' (Grotius 2.2.6.4 quoted in Hont and Ignatieff 1983:28).

Pufendorf developed and qualified Grotius' approach in some important ways. First, he enlarged the historical account of the rise of property. In this account four historical stages can be recognised. At first people lived in a negative community, then in many positive agricultural communities, which in turn gave way to an agricultural society with full private property, and finally the development of trade and introduction of money gave rise to a society in which commercial relations took an important place. One of Pufendorf's many theoretical purposes with this historical outline (the various purposes are discussed in detail in Hont 1987) was the qualification of the nature of the original community of goods which mankind had known. According to Pufendorf, in this community no one had had exclusive rights or rights to everything. Instead 'rights' at this early stage should be understood as 'indefinite Dominion, not formally possess'd, but absolutely allow'd; not Actual, but Potential' (Pufendorf 4.4.3. in Hont 1987:270). Men, in other words, had lived in a 'negative community', a situation in which goods are not commonly owned, but in which it is possible for each individual to acquire property rights in goods.

Closely related to this was his argument, against Grotius, that the poor did *not* come in the possession of a right to subsistence in the exceptional situation of necessity which saw the old community of goods return. The poor, Pufendorf argued, did not so much have a *right* to subsistence, as the rich had an 'imperfect obligation' to charity. Only in extreme circumstances, and only if the rich defaulted on their obligation to charity did the poor obtain a right to take what was not given to them ('[...] a man of means is bound to come to the aid of one who is in innocent want, by an imperfect obligation which no one should, as a rule, be forced to meet; and yet the urge of supreme necessity makes it possible for such things to be claimed, on the same ground as those which are owned by a perfect right, that is, a special appeal may be made to a magistrate, or, when time does not allow anything of the sort, the immediate necessity may be met by taking the thing through force or stealth.' Pufendorf *On the Law of Nature and Nations*, 2.6.6 quoted in Hont and Ignatieff 1983:30). In all other circumstances gifts of the rich to the poor was merely a matter of voluntary obligation to the rich, not a right of desert possessed by the poor.

Whether or not Locke shared Pufendorf's positions on the original community of men and the imperfect obligation of charity is a bone of contention among recent commentators. Tully (1980) argues that Locke must be considered as a 'positive community theorist', and derived a subtle framework, inspired by the scholastics, of 'inclusive rights' to property which could be realised, especially through the application of labour, as exclusive property rights in particular objects. According to this interpretation Locke argued against laissez-faire (Tully 1980:154) and in favour of an 'inclusive society' in which all members were assured of a minimum level of subsistence. Tully's interpretation has been criticised by other commentators who maintain

that Locke was in fact a 'negative community theorist', and that his position on the claims of the needy to assistance of the civil authorities or the rich were very nearly the same as that of the continental jurists (E.g. Dunn 1969, Hont and Ignatieff 1983:36-8, Tuck). To some extent the question what may have been Locke's actual intentions is less relevant for our purposes than the reading which the writers we are principally concerned with gave to his theory and how they applied it. (Cf. Haakonssen 1988 who uses the same argument with respect to the moral philosophers of the Scottish Enlightenment).

This highly articulated field of early modern political and juridical theory has a direct bearing on the theories of property and wages of the physiocrats. A very clear example of how the issue of competing property claims is cast in precise Pufendorfian terminology is the following passage by Le Trosne (a trained natural lawyer). He asserts that: '*Man has a right to the things which are proper to his enjoyment*, and he receives this *right* from God who by creating [man], has imposed upon him the *duty* to preserve oneself. But this indeterminate right [*droit indéfini*] does not constitute a property [right]: because it is common to everyone and it extends to everything; it only becomes determinate for each man to such and such thing, at the moment that he appropriates it by [means of] his labour. He draws it then from the common property [*propriété commune*] by applying himself to [those individual things]; and nobody has a right to deprive him of that which he has acquired on such a legitimate title' (Le Trosne 1777a:25). This may be taken as more or less straightforward Pufendorfian/Lockean position according to which the right to subsistence is an indeterminate, or imperfect right which only becomes a determinate and perfect property right through the application of labour. However, in the physiocrats this idea is further developed in the theory that the normal amount of subsistence which the poor command through their labour (or real wage) will be 'adequate'. As such it is a perfect example how the moral and juridical conceptions shaped the emerging classical political economy.

## Appendix B. Intersectoral equilibrium in Auxiron.

Auxiron frequently invokes the idea that the various sectors in the economy establish between them what he calls a 'moral equilibrium'. This notion is defined in the following manner: 'One calls moral equilibrium, equality of benefit [*profit*] by equal effort [*travail*]' (*Principes* 1766, I, 16). The simplest application to this idea is given at the beginning of his work where Auxiron assumes there to be only two classes producing necessary goods, farmers and blacksmiths (besides the class of *Gentil-hommes* responsible for maintaining the public order). He argues that '[t]wo classes of Workers are in equilibrium among themselves, when in the one and in the other, the Worker by working equally, receives the same salary' (*ibid.*). This equilibrium is achieved through the movement of workers between the classes, which continues as long as the work is more rewarding in either of them. This notion is combined with the idea that a growth in the population necessitates the clearing of less fertile lands. Auxiron argues that the latter circumstance increases the difficulty of agricultural production and that equilibrating forces will ensure that the effort required of artisans will increase proportionally. To illustrate this idea he gives the following example: 'Let us suppose that at first there were eight hundred thousand Cultivators, and one hundred thousand Artisans in the State who, at equal labour, supported each other mutually. Let us [next] suppose that, through the increase of the population, the number of each of the [classes] was doubled, and that the lesser fertility of the last fields taken in cultivation, had augmented by a third the average labour of all classes, [and that] the price of manufactures would be lowered by a quarter; and a person who lived from forging three tools per day, were compelled to forge four [tools], in order to have the same quantity of foodstuffs as before. If the eight hundred thousand Cultivators did only demand from the hundred thousand Artisans, three hundred thousand tools per day, supposing that all necessary manufactures are comprised in that figure, then the sixteen hundred thousand Cultivators, of which we speak in this example, will demand not more than six hundred thousand tools; and taking into account the fall in the price of tools those latter Cultivators give only, for the six hundred thousand tools, the same quantity of foodstuffs as was given before for four hundred fifty thousand [tools]. But at first the price of three hundred thousand tools, affords a life to one hundred thousand Artisans; the price of four hundred fifty thousand [tools] at the same level, will only be able to support one hundred fifty thousand [Artisans]. If one counts in terms of products one will find the same thing; there are six hundred thousand tools needed in the state, each Artisan has to make four of them, [so] there are not more than hundred fifty thousand workers needed. However the number of Artisans had doubled to two hundred thousand; it must be therefore that either there would be fifty thousand who return to the land, if they do not want to perish from misery, or that their whole class will endure the lack of a quarter of necessities. Which will put them in a state of suffering which will check its natural population; and which by diminishing the number of its Agents, would soon reduce them to the just quantity which they must have' (I, 27-29). On page 30 Auxiron notes, to pre-empt possible criticism from 'mathematicians', that to reestablish equilibrium between the two classes, not exactly 50,000 people should return to the land, since in that case due to the extra demand for tools by the artisans-turned-farmers, there would be too few artisans. 'The exact proportion', Auxiron asserts, 'will be reestablished if only 45,714 return

to the land, neglecting the fraction which becomes nil, since we are dealing with [human] beings which would be destroyed by division' (I, 30-1). Auxiron does not explain how he arrives at this number, but it is quite easy to see how he will have done by looking at the following iterative process (where C stands for the number of cultivators, T for the number of tools they require, A for the number of artisans necessary to produce the tools; P for population, and S for the surplus number of artisans who return to the land):

C	T	A (=T/4)	P - (C+A)	Surplus
1,600,000	600,000	150,000	1,800,000-1,750,000 =	50,000
1,650,000	618,750	154,687.5	1,800,000-1,804,687.5 =	- 4,687.5
1,645,312.5	616,992.19	154,248	1,800,000-1,799,560.5 =	439.5
1,645,752	617,157	154,289.25	1,800,000-1,800,041.25=	-41.25
1,645,710.75	617,141.53	154,285.38	1,800,000-1,799,996.13=	3.87
1,645,714.62	617,142.98	154,285.75	1,800,000-1,800,000.36=	-0.36
<b>1,645,714</b>		<b>154,286</b>		

The interesting thing about this calculation, which shows how the 50,000 initially redundant workers are distributed over the class of cultivators and artisans, is that it describes a path of oscillation towards a new equilibrium. This notion is very rare, and arguably makes Auxiron the first economic writer ever to suggest such a movement. In fact the calculation illustrates an observation which Auxiron makes a little earlier in the text, when he states: '[...] the moral equilibrium is never perfect. All classes are continuously in a movement of, one could say, vibration; they remove themselves from the equilibrium, come back to it, and lose it [again] in the opposite direction; and their movement is imperceptible when accidental causes do not disturb them' (I,18).

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B. *La valeur dans l'échange est un fait relatif au tems, au lieu* (6p)

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